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to the Faculty of Graduate Studies and Research, for acceptance, a
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**A Targeted Visual Communication Campaign:
Safety Communications for 18-24 Year Old Male
Drivers in Alberta**

August 1993

Zoe Strickler-Wilson

Visual Communication Design

In Partial Completion of the

Master of Visual Arts Degree

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During my experience as a graphic designer in Minneapolis in the early eighties (first in two medium-sized design firms and more recently as an independent contractor) I have from time to time faced a crisis of conscience. I've realized that while I am able to confidently present design work that I consider attractive, inventive, and organized, I have no way of knowing whether the communications will be used and interpreted by audiences in the way that I intend. This thesis represents one step toward addressing that question.

The primary goal of this study is to explore existing methodologies for studying audiences borrowed from the social sciences for use as potential resources in developing effective visual communications. While the fields of marketing and advertising already use similar techniques for identifying and attracting target markets, audience research is an underdeveloped feature of many visual communications design applications.

This thesis is one segment of a larger research project under way in the Department of Art and Design at the University of Alberta in the area of traffic safety communications. It owes much of its development to the first phase of that project which culminated in publication of the special report *Traffic Safety in Alberta: Casualty Collision and the 18-24 Year Old Male Driver: Criteria for a Targeted Communication Campaign* (Frascara et. al., 1992). The subject of the report was data drawn from a series of focused group interviews conducted with 18-24 year old male drivers to uncover aspects of their beliefs about driving and traffic environments that may lead to their disproportionate involvement in fatal and traumatic injury-causing motor vehicle collisions.

In this paper I explain how the focus group data and concepts drawn from prior traffic safety research were used to develop a survey which was sent to a representative sample of young Alberta males to determine the prevalence of attitudes and beliefs identified in the focus groups. Qualitative and quantitative analyses of material from these sources have been brought to bear on a set of recommendations for a public communication campaign targeted to several subsets of the cohort determined to be most vulnerable to involvement in serious collisions.

In the 1987 study, *Rethinking Young Drivers*, Dr. J. P. Rothe stated that "attempts should be made to detach driving from the widely-circulated and commonly held conception of masculinity" (among other concepts), and added that "such detachment, of course, is a long-term project that involves modification of deeply entrenched attitudes" (284). We in the department believe that well-conceived and constructed public communications can play a role in helping members of the public to identify and confront ideas and beliefs that, in fact, may be killing them. This project represents one effort to provide tools for those who wish to pursue that challenge.

This thesis is one section of a larger research effort under way in the Division of Visual Communication Design, Department of Art and Design, at the University of Alberta in the area of public communications regarding driver behavior and traffic safety. Without the time and financial assistance of a number of individuals and organizations this component of the study would not have been possible in its present form.

I must first acknowledge the many contributions of my supervisor, Professor Jorge Frascara of the Department of Art and Design, whose interest in seeking ethical and beneficial roles for visual communication design as a means of addressing contemporary social problems is the inspiration behind the larger traffic study. Our work on this segment of the project was highly collaborative and my use of the word "we" throughout the paper is intentional since various of the concepts and decisions evolved over many hours of discussion together.

Special gratitude and recognition is due Mr. Robert Taylor, Director of Government and Consumer Affairs for the Alberta Motor Association whose interest and support of the many phases of the driver safety study have been steadfast. Mr. Taylor's advice on several sections of the survey were especially important to this paper. The Alberta Motor Association generously provided funding for the focus group sessions and underwrote printing and mailing costs for the survey. Ms. Maureen Ondrus, Market Research Administrator at the Alberta Motor Association, offered invaluable advice regarding many details of survey design and distribution, and Ms. Ena Theroux and Mr. Walter Barta provided administrative assistance with the survey mailing. I would also like to thank Mr. Cyril Mitra, AMA Driver Education Specialist, for his valuable perspective from the defensive driving classroom.

I also wish to gratefully acknowledge support for the focus group sessions provided by the Alberta Solicitor General, Motor Vehicles Division, especially Ms. Stella Wilson, Director of Driver and Vehicle Programs, as well as Ms. Barbara Brooks and Mr. Tim Trytten, also of the Motor Vehicles Division, and Ms. Marlene Anderson, Alberta Transportation, Planning and Statistics Branch, who contributed data and statistical assistance, and Mr. Gordon Kijek, Mr. Ray Booth, and Mr. Malcolm Simmons of Alberta Transportation who lent assistance with collision data and photo research.

On a personal level I would like to thank my parents Dr. and Mrs. M. Dee Strickler for the gifts of life, love and cognition, and my husband Chris Wilson, whose patience and encouragement over two years and 1,400 miles were superhuman.

I would also like to acknowledge the contribution of the people of Alberta whose support of University programs makes research of this sort possible and on whose behalf the safety project is being undertaken.

Visual communication design is a young field. Certainly the act of recording thoughts visually predates human civilization (or is a sign of it, depending on one's point of reference), but the activity we refer to as the "profession" of visual communication design has evolved primarily within this century, particularly since the growth of international corporations in the late '40s. While the field is not younger than, for instance, computer science, it is as yet poorly defined as an academic discipline and profession. Our ranks are growing—schools of design in North America now graduate an estimated 15,000 or more visual communication design students annually from four-year degree programs, yet there is little agreement about what constitutes a design education (McCoy, 32). There are no national professional boards in either the United States or Canada to oversee professional members in the manner of the Canadian Bar or Medical Associations and no professional entrance exam such as the one administered by the American Institute of Architects. Visual communication designers do not register or become licensed by Provincial or State Governments as do members of other professions and graphic design is still not officially recognized by the U. S. government as a profession (31). The term "visual communication design" is inclusive of many activities, but uniform definitions of quality and agreement about methodology or monetary value of the work do not exist among practitioners.

The disorder in the profession reflects and is compounded by disorder in the teaching of visual communication design. While enacting a mechanism for professional registration will have to be initiated by practitioners at the national level (most appropriately through organizations such as the Graphic Designers of Canada or the American Institute of Graphic Arts), improvement of design education can and must be initiated within existing academic institutions. Unlike most academic disciplines there is little uniformity from one school to the next in curricula for undergraduate visual communication design education and little consistency in the knowledge and ability of graduates (Core, 68). Some programs emphasize mastery of aesthetics, usually within a particular sanctioned and often esoteric style. Others emphasize entry level technical and job skills divorced from the higher aesthetic or conceptual tasks the work must perform. Usually a program features whatever material faculty feel comfortable teaching, regardless of its utility to students, employers or society. Since visual communications are used by people for myriad purposes that involve social, psychological, perceptual and physical human factors, the education of designers ought to include solid information from many disciplines. "Unfortunately, such an education is the exception rather than the rule.

Designers increasingly assert that "designers are problem-solvers", but unlike professionals in other disciplines we have little in the way of established methodology at either the graduate university level or within the profession to substantiate our claims that we are "solving" problems as we say we are.

When we speak of design problem-solving a distinction needs to be made between what can be considered the “*designer’s problem*” and the “*real problem*.” In practice the *designer’s problem* is the immediate task faced by a designer—usually developing an idea for a visual communication product that both the designer and the client *like*, that can be produced within a predetermined budget and that turns at least a modest profit for the design firm. The *real problem* is the client’s problem—the need to announce, package, or promote a product, service, or idea in such a way as to *move an audience to act*—usually by buying a product, but which can also be extended to adoption of behaviors that benefit the well being of the person or society (Ogilvy, 150). Design education programs have traditionally prepared the designer to solve the *designer’s problem*, which involves initiating and performing the following tasks, few of which have anything to do with solving the *real problem*:

- intuitive analysis of a client’s communication problem and message
- intuitive analysis of audience and audience needs
- judgement with respect to the formal aesthetics of arranging and combining two and three dimensional visual elements
- creation of unexpected or challenging juxtapositions of visual elements and messages
- crafting enticing and seamless presentations of visual ideas
- verbal communication and persuasion skills aimed at convincing clients that the work is competent and valuable

Most of this training is highly client-focused and product-focused, but because the process leaves out meaningful investigation of or contact with the end user, solutions reflect primarily the designer’s intuition, which while sometimes of conceptually high quality, may also be wrong.

Before going further I want to define the designation *visual communication design*. There are five principal areas of the communications industry in which people calling themselves graphic designers or completing visual communication design programs may find themselves working. Each of these areas is quite distinct in purpose, but in practice the products of these activities may be quite similar in form.

Advertising:

Advertising is any communications activity that has as its objective *persuasion* of an audience to *accept* and then *act on* information. The desired action usually means buying a product, but may also include joining an organization, attending a meeting or arts event, giving money to a cause, or voting for a particular candidate. Advertising relies heavily on the field of marketing and the end use of market research for communications is generally classifiable as advertising, but such products may also be referred to as “marketing communications.”

Graphic Design:

Graphic design has historically had as its objective *facilitating the reading and comprehension* of a visual message and *planning and detailing the aesthetic styling* of it. Books, informational journals, museum exhibits, corporate identity and architectural signage fall along the more permanent end of the spectrum of graphic communications—posters, brochures, packages, fashion magazines and promotional collateral at the more ephemeral end. There can be considerable overlap in form and purpose between the products of advertisers and of graphic designers, but in practice the two groups of professionals have little direct contact with each other. An advertisement may be well styled or highly informative and a product of graphic design quite persuasive. A retail package, for instance, must be both. In both disciplines the objective is to encourage an audience to want to use and act on information.

Commercial Entertainment Media:

Commercial entertainment media exist to amuse, divert, and stimulate audiences and turn a profit by so doing. Network and cable television, films, music video, and some print communications fall into this category. Fine artists may also work in these media, but for different purposes than commercial practitioners.

Commercial News Media:

Commercial news media exist to inform audiences of current events and to profit by so doing. The news is widely perceived by the public to be unbiased and factual but, whether delivered by television or print the news will inherently project an editorial bias either intentionally, or by juxtaposition or omission of information (Herman and Chomsky, 2). Increasingly, commercial news media are also designed to amuse, divert, and stimulate audiences.

Social Marketing:

Social marketing is the term now applied to the practice of planning, designing, and distributing programs and mass communications aimed at specific audiences among the general public with intent to effect attitudes and behaviors among them identified as being in the public interest. Social marketing generally involves multidisciplinary teams of professionals from the social sciences as well as marketing, advertising, graphic design, and occasionally news and entertainment media professionals. Whether one regards the final product of social marketing as socially beneficial or as propaganda will depend on one's political views regarding the social issue under study.

People who train as visual communicators may end up working in any of these five areas or move between them during a career. It is not unusual for the "look" or methodology from one area to be applied to problems in another.

The Function Complex

1 Method

The interaction of tools, processes, and materials in the making of an object or communication.

2 Use

Does it work? Does it perform the task for which it was designed?

3 Need

Is it needed? Does it meet a real human need? Is it worth the resources consumed by its creation?

4 Telesis

Does it reflect the times and conditions that have given rise to it?

5 Association

Is the content of its form compatible with our psychological conditioning toward its purpose?

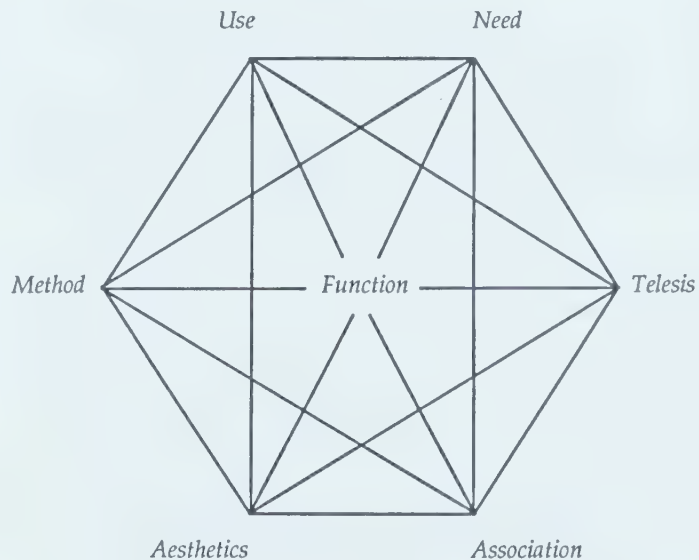
6 Aesthetics

Does it provide pleasure for our senses, move us emotionally, or give us the sense that it has "meaning" for us?

Some of this mutability in look and purpose is intentional on the part of individuals or organizations to effect certain goals (some above ground, some ulterior), but much of it occurs simply because practitioners move between the areas without conscious recognition that the purpose of the task has changed. (This is possibly the result of disorganized and incomplete design education.) Designers often apply a style or way of working to a particular problem simply because it is what they know and it is the way in which they are comfortable working whether the method and solution are appropriate for the problem or not. From the standpoint of traditional definitions this is "bad design."

My preferred model for "good design" comes from Victor Papanek's 1972 book *Design for the Real World* (26). Papanek's model takes the form of a six-point polygon in which all criteria interconnect and cross at the center which represents *function*. In this model aesthetic pleasure is considered a functional criterion along with other more utilitarian considerations, since pleasure or perception of beauty will enhance the user's emotional experience of the object and encourage its prolonged use.

Papanek's Function Complex



The historical separation between advertising and design is breaking down somewhat in the nineties as many clients are cutting costs by taking campaigns directly to designers and thereby sidestepping market analysis. The most notable example is the newest series of Coca-Cola ads that are being produced directly by a Hollywood film production house eliminating the role of the advertising agency. Coke, of course, has paid for its market research many times over, but clients newer to marketing problems should beware of leaving audience research out of the design process.

These functional criteria (that might also be termed “design values”) are what tend to philosophically separate *designers* from other visual communication practitioners working from other paradigms. Any common ground in design curricula usually meets along the lines of these criteria whether industrial design, product design, architectural or environmental design, or visual communication design. The underlying assumptions that drive this thesis are fundamentally grounded in these “values.”

Graphic designers often summarize the difference between design and advertising by stating that “advertising persuades, graphic design informs,” but in practice the distinction is more complex; in some areas the activities of the two groups of professionals overlap to a greater extent than is generally acknowledged. Many designers disparage advertising as the “snake oil” side of visual communication design because of personal discomfort with the implications of *persuading* audiences to *act* on messages—usually by buying a commercial product. But in many ways the field of advertising has done a better job than design of defining systematic methodologies for studying audiences and building audience research into the process of creating communications. What design work gains by concern for form and material integrity it may lose in substance by not connecting with its intended audiences. In the case of safety communications—the subject of this study—the ultimate criteria for success is whether audiences *act* on the information for their own benefit. This thesis intentionally blends concepts and practices from graphic design and advertising to accomplish social marketing goals.

Product designers and advertisers have historically worked much more closely with market researchers to test and determine in advance how end users will respond to their ideas and products. Costs of manufacturing and distributing in these fields are generally higher than in graphic design and the practitioners are therefore more likely to be asked to account for the effectiveness of their work as it affects a client’s bottom line (Ogilvy, 9). Contact with the audience and user-testing is therefore built into the process.

This thesis represents an investigation into three large questions that relate to these concerns stemming from my personal experiences in the field.

- 1 *How can we improve the likelihood that an audience will perceive, interpret, and act on the communications we design in the way that we expect or intend?*
- 2 *What relevant information or methodologies exist in other academic disciplines that can be adapted to help practising designers or design researchers approach this question (and their work) with more certainty?*

Another factor working against designers solving “the real problem” is that juried design competitions are still a primary measure of status and quality in the profession, and winning awards is recognized as a desired end state for design work. Consequently our products are not only heavily client-focused, but in many cases also heavily peer-focused. Obviously, we need to satisfy clients, but the client is not the end user of the communications and the design jury certainly is not. That leaves the question of whether users of our communications really use them the way we think they should and the way we have assured clients they will. In other words, is our work legitimate?

3 Can this capability and the potential power of mass communications be put to beneficial social purposes?

The third question is different from the first two, but acknowledges the omnipresence of visual communications in North American social culture and the persuasive power inherent in any instrument of mass communication.

These questions take the thesis in a direction far from the day to day practice of “graphic design.” Admittedly, many problems in visual communication design are not sufficiently complex to warrant the depth of research contained in this paper. However, many deserve more depth than budgets are currently allocated for. Practical “research” for a typical brochure, flier, or poster usually involves gaining a quick familiarity with the subject, getting to know the sponsoring organization, gauging roughly the tastes of the audience, and reviewing design work by the competition. While the importance of these steps cannot be understated for solving the designer’s problem, the relationship between the work and its audience is by far the most important feature for solving *the real problem*—the real measure of the success of the design—yet it is often the least methodological and most intuitive consideration of contemporary design practice.

During my literature search I was reminded of these thoughts while reading Phillip Kotler and Eduardo Roberto’s book *Social Marketing: Strategies for Changing Public Behavior* (1989) a book written for agencies and public administrators that commission social communications campaigns. Of the nearly 300 pages of the book, only three dealt with producing communications—the rest covered planning and distribution for the programs. The advice for overseeing the creative component of communications was reduced to a bullet in the project flow chart marked “develop communication materials.” The implication is that by virtue of being communication consultants designers or advertisers will be able to supply effective communications once a marketing distribution plan is in place. My experience is that the issue of effectiveness is much muddier.

If we are going to be honest about what we do, *effectiveness* of communications must be defined as *the ability of the communication to move a target audience to adopt desired behaviors or discontinue undesirable ones*. However, the study of motivating individuals to adopt or reject behavior is the province of academic disciplines such as educational, behavioral or social psychology. Few graphic designers or art directors have the background to enable them to proceed with any certainty in these areas.

Education for art directors and graphic designers has traditionally been administered through schools of art and design and advertising creative directors are typically drawn from departments of English and journalism.

Creative products naturally reflect the concerns and values of the educational programs that inform them. Designers have traditionally been concerned with line, balance, color, proportion, typography, style and visual metaphor: art directors tend to work at making startling, inventive, often seductive imagery. Creative directors value humor, word play, and rhetorical constructions. Combinations of the three have formed the criteria upon which awards in the industry are based and consequently receive the most creative energy. But these objectives do not guarantee the effectiveness of communications for affecting behavioral change.

Because these underlying questions are not simply theoretical but grounded in practical experiences, this thesis is framed in the context of a genuine social problem—traffic safety—rather than in theory or studio design work. It is my hope that investigation into fields adjacent to ours with richer histories of research and knowledge-building may increase the core body of knowledge in our own field and will improve the level of confidence with which designers approach their problems as well as constructively influence the seriousness with which visual communication design is regarded as a profession.

2 Thesis objectives

My objectives in undertaking this thesis are four-fold:

1) *to learn about the research process itself.* As an initial objective I've set about informing myself of existing methods, primarily from the social sciences, for approaching research questions regarding audience. Understanding accepted procedures and standards for research will enable me to better comprehend and make use of findings from existing studies.

2) *to investigate existing knowledge and methodologies in the social sciences concerning the study of human beliefs, motivations, and behaviors and explore ways in which they may appropriately be used to guide the process of designing messages for public dissemination and benefit.* Graduate investigation in graphic design has traditionally followed the model of graduate studies in the fine arts with personal artistic growth identified as its primary objective. This is appropriate for investigations in which graphic design is defined primarily as an art form or vehicle for personal expression (experimental typography or imaging, for example), but many applications for graphic design require a primary focus on the utility of the communications to an intended audience. Design for public information is key among these. Therefore, I have decided to use research methods from other relevant fields and, where appropriate, experiment with new synthesis in order to address the problem at hand. A communication is of little value to its sponsor if the message has no appeal to its intended audience and effects no desired responses or change.

3) *to investigate the point at which methodologies and aesthetic and technical devices from graphic design, commercial advertising, and entertainment media can be applied to public information campaigns to increase the acceptance of beneficial messages by targeted audience groups.* While one can legitimately argue that encasing public messages in aesthetic or technically sophisticated packages is misleading and lends itself to abuse by propagandists, I would suggest that the visual media are already being used to great effect by propagandist interests of all kinds and that perhaps the only sponsors currently not using these techniques to full advantage are public interest and information groups for social benefit.

4) *to contribute, if possible, to the pool of information available to researchers and administrators working in the area of traffic safety, specifically with regard to the attitudes and behaviors of 18-24 year old male drivers in Alberta toward the driving task and environment.*

a Brinberg and McGrath's model for research

In their book *Validity and Reliability in the Research Process* David Brinberg and Joseph E. McGrath describe research as a richly interwoven process for *reducing uncertainty* about a particular problem or question via means which are both *valid* and *reliable*. Reliability refers to the extent to which findings from a procedure can be duplicated. Validity is the extent to which findings can be said to be "true." Validity in research is understood to be an ideal to be pursued, but which cannot be attained (13).

Brinberg and McGrath define research as "the study of *relations* between some units or *elements* that are part of some kind of *embedding system*." Research occurs in three principal domains: the *substantive domain*, the *conceptual domain* and the *methodological domain* which can be loosely defined as follows: (14)

The *substantive domain* concerns *content* that is of interest.

The *conceptual domain* concerns *ideas* that give meaning to content.

The *methodological domain* concerns *procedures* for studying content.

In the *substantive domain* elements are phenomena, relations are patterns of phenomena, and the embedding system is the situational context in which entities and phenomena are embedded.

In the *conceptual domain* elements are attributes or properties of phenomena, and relations are conceptual relations that specify logical-causal-temporal patterns among two or more properties. The embedding system is the conceptual paradigm within which the properties and relations are studied.

In the *methodological domain* elements are methods or techniques for gathering information, relations are comparison techniques, and the embedding system refers to research strategies.

Valid research involves all three domains but not necessarily at the same time or in a particular order. There are three main stages through which research passes which are often performed by different individuals (15).

Stage I research is the prestudy stage in which concepts, methods, and substantive phenomena are identified, clarified and developed. Researchers who are systems experts in various aspects of each of the three domains will lay the groundwork in stage I for stage II research.

Stage II research is what is usually recognized as "research" where ideas, methods and substantive content are manipulated, usually by following hypothetico/deductive processes, to arrive at a set of "empirical findings."

Stage III research provides follow-up to stage II findings by repeating procedures and systematically attempting to define the scope, significance and limitations of the findings. The purpose of stage III is to verify, extend and draw the boundaries of stage II research.

According to Brinberg and McGrath validity means something different in each of these three stages. In *stage I* validity means *value*, i.e. does the study question have merit? Is it worth pursuing? In *stage II* validity means *correspondence*, i.e. do relations between concepts or phenomena suggest significant patterns? In *stage III* validity means *generalizability*, i.e. are the findings repeatable in other environments and do they apply to contexts broader than those immediately under study.

Validity in social research is pursued by working to resolve three factors which are mutually incompatible—*realism*, *precision*, and *generalizability* (43).

- *Realism* is the extent to which a study is conducted under circumstances that reflect beliefs, behaviors and social dynamics as they occur in real life.
- *Precision* is the extent to which measures of behavior and control of variables can be said to be accurate.
- *Generalizability* is the extent to which data gathered and ideas articulated by respondents can be said to apply to the larger study population.

Research strategies that provide maximum value for one of these objectives will provide low levels of both of the other two. For instance, laboratory experiments (which permit a high degree of control over variables, and therefore, cleaner measurements) will be more precise, but lower in realism and generalizability. Field studies (ethnographic or participant observation research) will be high in realism since naturally occurring phenomena are observed, but will be low in precision and generalizability since external variables cannot be controlled. The number of participants is usually quite small as well. Survey research will be high in generalizability because of the larger samples, but low in realism, (because a survey is inherently artificial), and low in precision because its nearly impossible to get 100% participation from targeted individuals and because variations in people's interpretations of questions and response categories can't be controlled.

These limitations can only be overcome by conducting multiple studies on the same problem using different procedures and comparing the results. The weaknesses of each area cannot be strengthened by mixing methodologies. Methods are best kept pure within an approach and cross-referenced at a later time. As a general rule, methods which are rich in detail will be narrow in scope. Methods which are broad in scope will be weaker in detail.

Brinberg and McGrath describe three research orientations that produce three different “study paths” that stage II research can follow. Different researchers will be oriented toward different methods and domains based on their expertise and the “paths” they choose for research will reflect this. The paths begin with information and tools drawn from two of the domains to be applied to procedures or phenomena in the third (60). The validity of the study will be determined by the appropriateness, or “fit”, of the chosen path to the larger objectives for the stage II research (69).

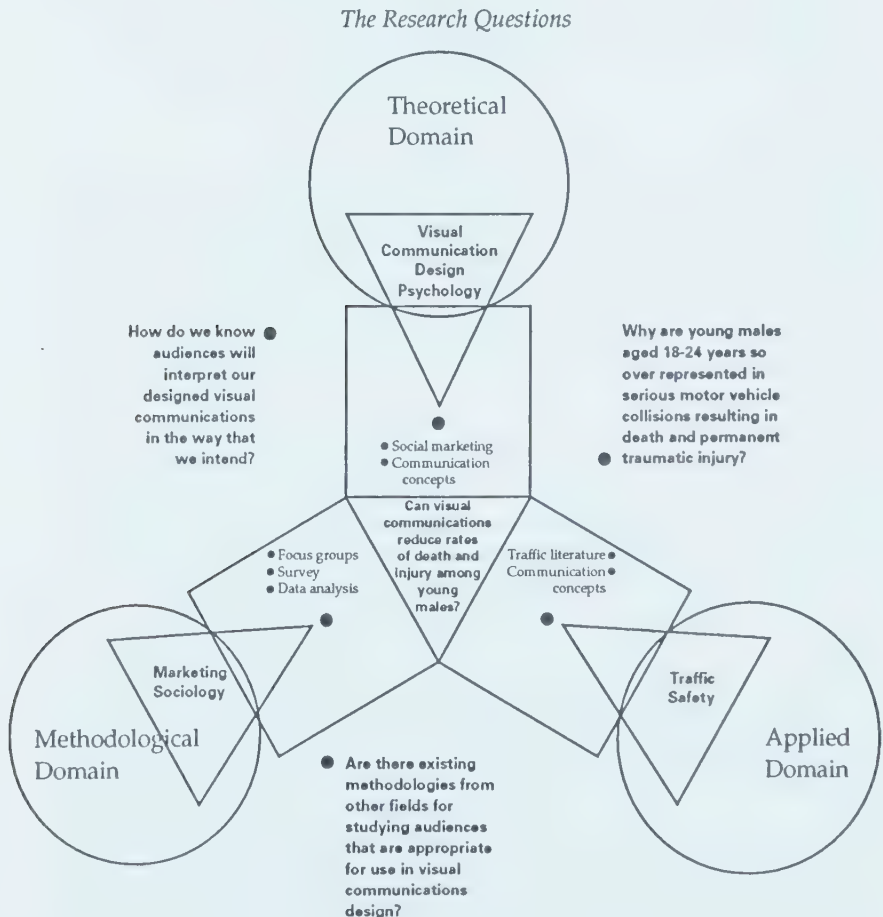
- The *experimental path* combines concepts from the conceptual domain with methods from the methodological domain to produce a *study plan*. The concepts and methods are then brought to bear on phenomena in the substantive domain. If the substantive phenomena are subjected to “operations,” the result will be a set of *variables*. If the phenomena are subjected to “comparisons,” the results will be a *set of findings*. The embedding system for the variables and findings is the *body of evidence* and the product of the path will be the *set of empirical findings*.
- The *theoretical path* combines concepts from the conceptual domain with phenomena, from the substantive domain to produce an “untried theory” which is subjected to selected methods. If individual concepts are combined with particular phenomena the products are *constructs*. If “conceptual relations” are combined with “patterns of phenomena” then the products are *hypotheses*. The embedding system for constructs and hypotheses is the set of hypotheses and the product of the completed process is a *set of empirical findings*.
- The *empirical path* combines methods with substantive phenomena to produce a *set of observations* to be interpreted with ideas from the conceptual domain. When methods for collecting observations are applied to phenomena the results are *indices*. When methods for analyzing data are applied to patterns of phenomena, the product is a *set of arrays*. The embedding system for indices and arrays is the *instrumental structure*. Again, the final product of the process is a *set of empirical findings*.

b Description of the research plan

In applying these concepts to our own inquiry we can say that the underlying questions for our study originated in the *conceptual domain* within visual communication design and our intent has been to enrich the *methodological domain* in the area of visual communication design by applying methods from the social sciences to a communication problem in the *substantive domain* of traffic safety.

Our *stage I* study combined a review of traffic safety literature and concepts from the field of marketing with our joint backgrounds in visual communications design to produce a plan for stage II. Our stage II research involved two data gathering procedures that followed the *empirical path*—a series of focus groups (marketing methods applied to substantive questions in traffic safety which provided detail), and a survey (survey methodology applied to questions in traffic safety which provided scope). Sets of observations from these two procedures were then analyzed using concepts from sources in several fields. *The product of this thesis is a set of recommendations for applying these findings to the visual communication design problem of persuading 18-24 year old men to adopt safer driving behaviors.*

Stage III is of course yet to come. Stage III would include testing the recommendations in a sample community to compare pre- and post-test rates of casualty collisions against those of a demographically comparable control community. Our study can be diagrammed as shown below:



4 The research problem: selecting a significant target audience: the 18-24 year old male driver

a Reasons for selecting the research problem

The body of this project is composed of a study, analysis, and set of recommendations regarding design of a public communications campaign aimed at 18-24 year old male drivers in Alberta and others with similar driving habits. As stated earlier, the purpose of the proposed campaign is to increase awareness among 18-24 year old males of their greater risk of permanent injury and death in motor vehicle collisions by addressing specific sets of beliefs, assumptions, and driver actions that lead to collisions. The objective of the campaign is to *change the level and nature of dialog* among young males about driving in order to reduce deaths and injuries in Alberta over time.

The field of injury awareness and prevention, (currently a concern of public health and preventive medicine), has increasingly identified education through visual communications as one of the key agents for reducing illness and accident-related injuries (Young 3, Kotler and Roberto, 190, Leiss in Rothe, 1990, 154). Accidents have been redefined by health professionals as *not accidents* at all, but rather as *predictable and preventable events* that are the logical results of actions undertaken through insufficient information or misconceptions regarding personal risk.

This study has been conducted and written from the perspective and work experience of a visual communication designer. There may be aspects of the project that seem methodologically strange to readers coming from traditional social sciences disciplines and, no doubt, errors have been made. However, I have approached the project in a way that seems logical to me as a designer because I believe its greatest potential benefit lies in the fact that it is being initiated by practitioners who need answers to questions in order to take appropriate action.

I have made every attempt to follow standard procedures for social sciences methodologies where I have borrowed from them, but have also experimented where I felt that a different approach would yield information more valuable to a designer. I hope that this study may be useful for future projects, carried out by myself or others, toward the ongoing task of increasing the validity and reliability of communication design methods and practice.

The selection of traffic safety as an area for visual communication design research was not an arbitrary one. The complexity of the human factors associated with driving make it an ideal problem for a multi-disciplinary study of this kind, especially when framed in the context of *driver behavior*. Traffic collisions involve causal processes that are physical, social, psychological, perceptual, and political in origin, and visual communications aimed at reducing their incidence require insight into all of these factors. Reasons for the research choice can be summarized as follows:

-
- 1 *Motor vehicle collisions remain a major cause of death in North America and traffic-related injuries one of the most expensive areas of modern health care.*

Motor vehicle collisions are still the leading cause of death among persons under age 45 in North America (Mayhew, 17) killing roughly 1,200 young people between the ages of 15 and 24 in Canada every year and injuring nearly 90,000. (IBC, 3-4). Traffic collisions are also the leading cause of permanent disability resulting from injuries to the brain and spinal cord. There are between 4,500 and 6,000 brain and spinal cord injuries in Alberta each year; an estimated one third to one half of them are due to motorvehicle collisions (IAPC, 1). While the pain and suffering incurred by these individuals and their families cannot begin to be measured, the material costs to society are staggering. In the first year following an injury it costs the province of Alberta an average of \$300,000 to treat and rehabilitate a person with a serious brain or spinal cord injury and \$100,000 for every year of life after that to provide for ongoing rehabilitation, healthcare, and support for daily living (Ibid.) It's estimated that the total cost of injuries in Alberta is between 3.5 and 5 billion dollars annually (Francescutti, 4). Traffic injury problem is covered in detail publication *Traffic Safety in Alberta: Casualty Collision and the 18-24 Year Old Male Driver: Criteria for a Targeted Communication Campaign* (Frascara et al.).

- 2 *Driving is an activity which North Americans consider routine.*

Most people in North America drive or ride in motor vehicles on a daily basis without giving much thought to the potentially lethal consequences of their inattention to the task. People are generally less able to assess risk in activities that are normal and habitual than they are toward more exotic threats such as food irradiation or nuclear power (Rothe, 1990, 210). Given the low level of dialog in North American society about traffic safety compared to other threats (e.g. handgun violence), any communications efforts that raise consciousness regarding specific and real traffic risks may be of value over time.

- 3 *Traffic safety is considered a boring topic by most people and most existing safety publications and communications are, in fact, "boring."*

The dreariness of traditional driver education and safety communications suggests that the area is underdeveloped as a means for motivating people to adopt safer driving attitudes and behaviors. Motor vehicle advertising and portrayals of driving on film and television, on the other hand, are extremely visually exciting and play a significant role in the formation of normative values and fantasies about driving and motor vehicles in North America. Current traffic safety communications cannot compete. In the words of Guenther Kröj, "...there is still a shortage of comprehensive safety concepts and media plans to make the motoring community aware of road safety problems. The lack of resources and creativity on the part of safety organizations to create media interest in safety is deplorable." (Kröj in Rothe, 1990a, 200)

4 Outcomes are measurable.

While it is difficult to measure with certainty the effect of *attitudes* on social behaviors (McGuire, 251), it is possible to measure *rates of incidence of events* such as motor vehicle collisions. Audience response to visual communications implemented on a small scale in a test community can be measured against a comparable control community not exposed to the campaign. Comparison of collision rates among the target and general populations can be examined at intervals to determine the effects of the communications, if any, on rates of collision and casualty.

b Defining the problem

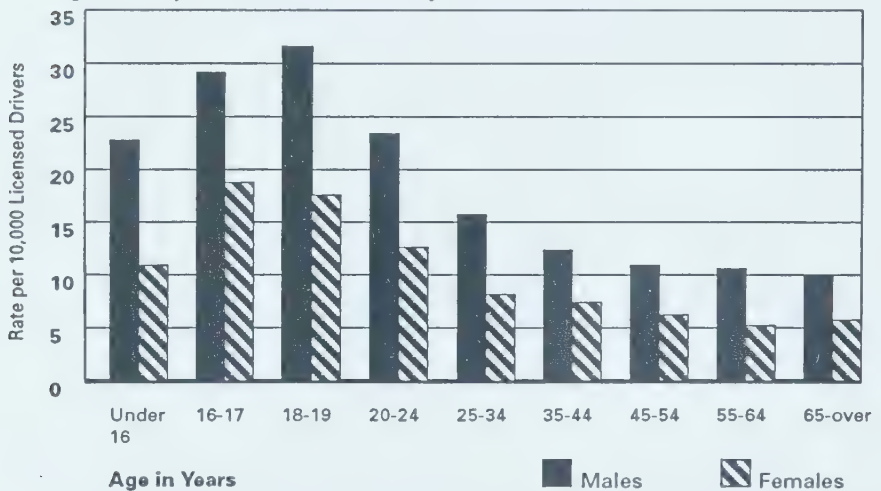
The first step in approaching the communication task was to develop a working understanding of the study area from as many angles as possible. An ongoing literature review in various areas of traffic safety and driver behavior has been under way for three years in the department of Art and Design at the University of Alberta under the direction of Professor Jorge Frascara. From government statistics and other studies we were able to describe in detail the *nature and incidence* of 18-24 year old male driver involvement in motor vehicle collisions, but the more difficult question was *why* they crash at higher rates than other members of the driving population. For this reason we have concentrated most of our efforts on developing a qualitative profile of the study population that includes information on beliefs about the driving task, attitudes toward motor vehicles and the traffic environment, attitudes toward other drivers, and values about driving. I will summarize important features of the problem as defined in existing, primarily quantitative, research before discussing our approach to defining the problem qualitatively.

c Initial definition of the study population

We focused the study on the 18-24 year old male driver for specific reasons. As an age and gender cohort they are among the group most at risk of involvement in casualty collision. Studies show that while teenagers 16-17 have the highest rate of overall collisions, the crashes of drivers aged 18-19 are more likely to be serious or fatal (Schuman, 103). 18-19 year old males also suffer the highest *rate* of casualty collisions in Alberta—31.7 per 1000 as against 29.2 per 1000 among 16-17 year olds, and 23.3 per 1000 among 20-24 year olds, (Alberta Statistics 1991, 18, see chart below). Some researchers and insurance institutions define “the young driver” as aged 16-24 since the collision and casualty rates of the two groups are closely related, but we consider the developmental and life changes occurring between the exit from high school and entry to adulthood to be of a significance that suggests separate analyses.

Extensive research exists on aspects of problem-driving among teenagers (Jessor, 1987), (Bierness and Simpson, 1987), (Rothe, 1987), (Mayhew and Simpson, 1990) among others. Teenagers are generally viewed as a distinct subculture within the larger population and are relatively easy to contact for study since most are still enrolled in the public schools. 18-24 year old males, on the other hand, are a fractured cohort. Some begin working immediately after high-school, others go on to various levels of post-secondary education, join the armed forces, or pursue other life options. Yet, involvement in casualty collisions remain high among young men until age 25. A concern of this study is to discern ways in which beliefs and attitudes about driving held by 18-24 year old males differ from those they held as teenagers.

*Age and Sex of Drivers Involved in Casualty Collisions in Alberta in 1991**



*Figures for the graph are from the 1991 publication of *Alberta Traffic Collision Statistics*, published by Alberta Transportation and Utilities, Edmonton.

The fact that 18-24 year old males have entered adult society and dissipated as a group makes mass media a logical and perhaps necessary way to distribute ongoing safety information to them since it can't be assumed that they will be reached through existing institutions. We also believe that the adult social expectations and cultural influences they experience after leaving high school will affect their intellectual and stylistic preferences for images and messages in the media. Since members of this group serve as immediate role models for young males still in high school, a targeted campaign that is successful with 18-24 year olds could have an impact on those immediately younger in age.

d Casualty collision statistics in Alberta for 18-24 year old male drivers

The following statistics provide a review of factors that define the problem of casualty collisions among the cohort in Alberta. Figures, unless noted, are drawn from the 1991 publication of *Alberta Traffic Collision Statistics*—the last year for which data were available.

Age

- 18-24 year old males represented 6.3% of the total population of drivers in Alberta in 1991 (Frascara, et. al., 3), yet they represented 15.9% of drivers involved in casualty collisions in Alberta.

Gender

- 18-24 year old females are involved as drivers in casualty collisions at rates less than half those of males the same age, or 7.3% of the total.

Road conditions

- The majority of casualty collisions in Alberta occur on dry pavement and under conditions of good visibility. In 1991 only 15.3% of fatal collisions involved slush, snow and/or ice, and only 21% of non-fatal injury collisions involved slush, snow and/or ice.

Location

- Injury collisions occurring in rural areas of Alberta are somewhat more likely to be fatal than those occurring in or near urban areas.
- 68.5% of all fatal crashes in Alberta in 1991 occurred in rural areas.
- Collisions in or near urban areas accounted for 73.0% of all non-fatal injury crashes in Alberta in 1991.

Alcohol

- 71.4 % of drivers involved in casualty collisions were sober at the time of the collision.
- 9.6% of drivers involved in injury-only crashes were judged to have consumed alcohol prior to the crash, whereas 26.2 % of drivers involved in fatal collisions were judged to have been drinking. The amount of alcohol consumed correlated positively with the severity of alcohol-related crashes.

Driver action

- Driver error or misjudgment was cited for 50.1% of drivers involved in casualty collisions. (It should be noted that most collisions involve more than one driver, and that almost 50% of drivers involved in collisions are victims of the driving errors of others).
- Running off the road, driving left of the center of the road, and failure to observe traffic control devices were the driver actions cited most frequently in fatal collisions.
- Running off the road, following too closely, and turning left across the path of oncoming traffic were the driver actions cited most frequently in non-fatal injury collisions.

e Age vs. experience

Some of the over-representation of young males in traffic collisions can be attributed to inexperience. Historically most newly licensed drivers have also been young drivers and factors of age and inexperience have been difficult to separate in analyzing collision data. "New to the Road," a report published in 1990 by the Traffic Injury Research Institute in Ottawa provides a review of recent work separating the two factors as they relate to collision rates among various groups of novice drivers. In the study, researchers D. L. Mayhew and H. M. Simpson compared rates of collision among drivers licensed one, two, three, four and five years between the years 1983 and 1988 using data from a file compiled by the Ontario Ministry of Transportation. Controlling for factors of age and experience across groups of new drivers, the study determined that whereas both age and experience are related to greater collision involvement, age-related factors may be the more important of the two.

The study found that among females of various ages with four years of driving experience, collision rates dropped steadily as the age of the driver increased, but among 30 year old female drivers with different levels of driving experience collision rates did not differ significantly between the first and fourth years of licensure (111).

For new male drivers where age was held constant, the data showed that rates of collision decreased steadily and significantly with each additional year of driving. Holding experience constant, however, new male drivers licensed only one year did not show the same gradual reduction in collision rates by age that women did. Sixteen year old first-year drivers experienced a collision rate of 126 (per 1000 drivers) which dropped to 115 by age 18 and then rose again to the level of 16 year olds at age 19 and peaked at around 130 for 20-24 year olds before dropping to less than 100 for drivers aged 35-59 and less than 70 for drivers over age 60 (105).

Conclusions from the analysis suggest that the first year of driving is the year of greatest potential risk of collision for all drivers, presumably since experience in assessing and responding to hazards on the roadway is cumulative and not all adverse circumstances can be encountered prior to licensure. However, the factor of age (and by extension the social, cultural, emotional and behavioral factors that accompany differences in age) appears to have a greater effect than experience on the disproportionate involvement of young drivers in collisions, especially among young males.

f Profile of the young problem driver

One point that is clear from the literature, but which is often obscured by studies based primarily on age categorizations, is that *not all young drivers drive alike*. A majority are able to negotiate traffic environments for a lifetime without serious mishap. Some researchers have suggested that the issue is not so much *the young driver problem* as it is *the young problem driver* (Waller in Mayhew and Simpson, 73). Government, academic, and insurance industry data collected over several decades provide a fairly consistent aggregate profile of characteristics shared by young males most likely to be involved in fatal or injury causing collisions. The following personal and lifestyle factors have been found to correlate positively with higher rates of collision involvement and distinguish collision-involved young males from their noncollision-involved peers (Rothe 1987, 11) and (Biemess and Simpson, 1988):

- lower economic status on standard demographic scales
- poor academic performance in school
- not pursuing further education after high school
- weaker relations with parents/less respect for authority
- regular smoking, especially if before age 16
- greater use or abuse of alcohol and illegal drugs
- fewer reported hours of sleep per night
- holding of part-time jobs while attending high-school
- enrollment in vocational rather than college preparatory classes
- trouble with the law for other than traffic offenses
- personality pattern of immaturity, aggression, and lack of emotional control

None of these factors in isolation predict collision involvement for an individual driver, but as a cluster of characteristics their presence strongly indicates greater vulnerability to collision. It is accepted among traffic safety researchers that an extremely high-risk group exists across all age categories (estimated from repeat collision data to represent from 1% to 5% of all drivers) that may be responsible for a disproportionate number of serious collisions. As a group these drivers share many of the personal characteristics listed above and suffer a high incidence of physical and emotional abuse during childhood, as well. Traffic safety experts believe that the problems and life experiences of this group are such that problem driving represents only one aspect of a pattern of sociopathic behavior that is not correctable through education, but would require intensive therapy to affect positive behavioral change.

Assuming that this small, "highest-risk" group exists across all ages and cannot be reached by communication campaigns regardless of design, we returned to the nonpathological portion of the 18-24 year old male driver cohort that nevertheless incurs a higher rate of traumatic collision than females their age and higher than older males. The question is, why do these males suffer disproportionately higher collision rates?

Descriptions of collision-involvement among 18-24 year old males from primarily quantitative research gave us a sense of which demographic and personal characteristics correlated positively with crashes. They were less able to tell us *why* the collisions occurred. In order to develop a plan for public communications to reduce collisions among the target group, we needed to understand more about the young men as drivers than their socioeconomic status and performance in school. Specifically, we needed to know *why* vulnerable members of the group are disproportionately involved in collisions and what kinds of influences might decrease the incidence and severity of the crashes they experience. Questions that we needed to address that were not provided by quantitative data include:

- 1 *Are there specific beliefs, attitudes, and values held by some drivers about driving and the driving environment that make them more likely to crash than others who do not hold them? If so, what are they?*
- 2 *Are there specific emotions, thoughts, or environmental factors experienced by drivers at the time of collision that contributed directly or indirectly to the probability of a crash? If so, what are they?*
- 3 *Are there specific driver actions with central, causal relationships to collisions that may be under-recognized by the driver or under-reported in official accident reports as causes? If so, what are they?*
- 4 *Are there social influences on the driver that are under-recognized as contributing factors to collisions? If so, what are they?*

And most importantly:

- 5 *Can public communications be designed to use this information in ways that effect real behavioral changes in the drivers and in turn reduce the incidence and severity of road crashes?*

The source from the literature search that came closest to addressing the first four questions and which provided a strong model for research that holds direct potential for use by communication designers was the study *Rethinking Young Drivers* by researchers J. P. Rothe, K. Stoddart, and P. Cooper for the Insurance Corporation of British Columbia (1987). The study involved male and female teen-aged drivers and is therefore not directly transferable to our cohort, but the richness of the qualitative data gathered from small group interviews, long interviews with individuals, and interviews with parents, combined with quantitative survey research, revealed rich insights into the social and cultural features of the environment in which young people experience their first years of driving.

A key concept from the Rothe study which informed our thinking and which we have projected to the 18-24 year old cohort can be paraphrased as follows:

Teen-aged (and, by extension, young adult) drivers do not necessarily drive as they do because they are “deviant” which has been their traditional characterization in traffic safety literature, but because they are “over-conforming” to societal expectations about how they will drive.

This concept includes a number of sub-concepts:

- Young male drivers are expected by their parents and peers to learn how to drive “naturally” by observing others or by “practicing” with a vehicle.

Boys reported that they actively watched their parents drive for years. Merely by observing...they became familiar with the functions of the various controls, the meaning of signs and lights and so forth....Many boys felt that...they could operate the vehicle immediately and without instruction (145).

Many boys reported that their actual engagement in driving-related activities began when they were only 10 or 11 years old. Parents confirm this, often adding that they thought such activity was “cute” or a sign that their son is “a real little man,” “all boy,” and so forth (146).

- It’s very important for parents to believe that their sons are good drivers because skill in handling a vehicle is considered a positive masculine trait in North America

License examiners observed that parents—particularly fathers—were more likely to quietly accept examination failure by their daughters than their sons. On the occasion of the latter, they claimed, verbal—and threats of physical—abuse directed at the examiner occasionally ensued....With regard to these assertions, parents often claimed that their son failed on ‘technical grounds’ and for failing to do or know things that ‘don’t really matter’ (167).

- Young males are not expected have fear of a vehicle or the driving environment or show outward expression of such fear to others.

Data obtained from the group would leave one with the rather definite impression that [fears and anxieties] are commonly experienced by girls, but not by boys...The one-to-one interviews, however, revealed not only that boys experience driving-related fear and anxiety but—more importantly—the existence of a widespread and strongly held sense that these are inappropriately experienced...they were related in ways that suggested their character as dark secrets, bits of information that have the potential to destroy others’ opinion of one (168).

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- “Good driving” is not equated by young men with observance of traffic laws or avoiding collisions.

Boys revealed an understanding of the concept “good driver” that is not consistent with the ones endorsed by, say, the Motor Vehicle Department...From the boys’ point of view, the occurrence or nonoccurrence of driving mishaps is inconsequential to their sense of what a good driver is (157).

When children queried their parents regarding the appropriateness of this or that unsafe or illegal practice, they were given responses that suggested that [the parents] were permitted to engage in them because they were “experienced.” In subtle ways, boys are instructed that bad driving is permissible for good drivers (146).

- Parents also do not equate “good driving” with anticipating and avoiding collisions where their sons are concerned.

“He’s had a few accidents, but he’s a good driver” (158).

- Young females are not under the same social pressure to demonstrate skill or lack of fear while driving. In fact, it is expected that they will not display these traits.

“She’s had a few accidents. She’s not a good driver” (158).

Girls...spoke freely and frequently of blunders, fears and the like. Girls did not tease each other about these, as did the boys. When it comes to self-assessment, driving ability is a criterion of low importance for girls (157).

Qualitative data and analysis of this sort provide revealing descriptions of some of the social and psychological factors at work in the everyday lives of an audience. Behavior can be understood as sets of logical responses individuals make based on prior beliefs, experiences, and social expectations when they encounter new or routine phenomena that require decision making. In order to modify behavior (or set the stage for different kinds of decisions by changing the nature of expectations) communication designers need to identify precisely these kinds of influences in the lives of audience members.

a Purpose of the focus groups

Because we lacked information specific to the age and gender group we had defined (Paterson and Janzen, 16) we set about building our own qualitative data base tailored to the visual communication problem. From reading and discussions with others we made the decision to begin gathering data through focused group interviews.

The premise behind focused group interviewing is to bring members of a study population together to simulate as normally as possible a conversation among peers. A neutral moderator steers the conversation with a short list of open-ended questions and probes for clarification, but participants are encouraged to discuss the topic among themselves in their own language, and from vantage points that are relevant to them. (For a discussion of validity and procedures for focused group interviewing see appendix a).

All social research is vulnerable to the biases researchers bring to a question by virtue of having “studied” it in advance. Open-ended interviewing allows participants to define phenomena in their own terms and to reveal the various ways in which they make sense of their experiences. Group interviewing allows a researcher to construct a definition of the problem from the point of view of the study population, a step that can prevent development of concepts that don’t reflect the actual dynamic of the situation. For our purposes, this perspective was essential for designing visual messages that the audience might heed. Since attitudes and opinions are seldom formed in isolation, but usually through interaction and dialog with others, the group interview can also reveal the process by which opinions are formed and reformed during the course of a group discussion.

b Plan and procedures for the focus groups

With funding from the Alberta Solicitor General’s Office, Motor Vehicles Division, and the Alberta Motor Association, we planned and ran three focus group sessions on November 5, 19, and 20, 1991, in a seminar room in the Fine Arts building on the University of Alberta campus. (See Frascara et. al. for a complete discussion of the plan, method, and transcripts).

In recognition of the fact that not all Alberta males aged 18-24 are equally vulnerable to involvement in collisions, we identified two sub-groups of the population for which we obtained mailing lists from the Solicitor General’s Motor Vehicles Division. The first list consisted of names of *44 repeat traffic offenders* from the Edmonton area—young men in the target age range with multiple traffic violations who had experienced at least one licence suspension in recent years. The second group consisted of 140 names of young men in the

age cohort who had been *involved as drivers* in injury causing collisions. While involvement in a traffic collision does not necessarily indicate risky or high-risk driving, it does suggest a greater vulnerability than could be expected from a group of noncollision-involved young males.

Research shows that prior collision involvement is one indicator of future involvement in collisions. A 1990 study by Michael Gebers for the Department of Motor Vehicles, State of California, found that drivers with two or more collisions in a two year period (1% of the sample) were involved in 3.6% of the collisions in the following year, or four times as many collisions as noncollision-involved drivers. Gebers points out that the majority of collisions in any given time period involve drivers with average or good prior driving records because there are so many more drivers with good or average records than bad and because collisions involve a number of causative factors. Nevertheless, the data clearly show an "accident-repeater phenomenon" whereby a small percentage of drivers incur more collisions than others (Gebers, 9). According to 1990 Alberta statistics, 3554 young males aged 18-24 were involved as drivers in injury causing collisions, representing 3.3% of their age and gender cohort in the Province. The percentage might actually be lower, since a driver might have been involved in more than one injury collision.

Care was taken to ensure that the injury collisions experienced by participants were not fatal or serious enough to require hospitalization of any vehicle occupants or pedestrians since involvement in a traumatic crash has the potential to change a person's psychological orientation to driving in ways that obscure beliefs held before the crash. Involvement in minor collisions, however, even those that involve minor injuries, do not tend to significantly change an individual's perception of the driving task.

The focus groups were moderated by Professor Adam Finn of the Department of Marketing and Economic Analysis at the University of Alberta and Professor Jorge Frascara of the Department of Art and Design. The first focus group on November 5 was composed of six members from the repeat offenders list and one subject recruited on the University of Alberta campus. The second and third focus groups on November 19 and 20 were composed of 13 and 12 participants respectively. Participants were each paid a thirty dollar honorarium for participation.

The focus group sessions lasted approximately one hour and 45 minutes and consisted of two periods of discussion with a break in between during which participants were shown three sets of advertising images to rank individually in terms of personal preference. They then discussed their reasons for liking or disliking particular images and communications. The ranking and comments on the images were analyzed separately by Professor Frascara. These findings will be discussed and incorporated into the design recommendations.

Key questions during the discussion periods on driving were:

- 1 Tell us what you like most about driving?
- 2 What kinds of things do you dislike most about driving?
- 3 How do you feel about driving when other people are with you in the car?
Does that make any difference to how you feel about driving?
- 4 What does the vehicle you drive say about you as a person?
- 5 What makes a person a good driver?
- 6 What makes a person a bad driver?
- 7 Group 1: Have you ever been in an accident while driving?
If so, how would you describe what happened to generate the accident?

Groups 2 & 3: What do you feel was the cause of your reported accident?
- 8 Group 1 only: So what do you feel are the causes of accidents?

c Summary of Dr. Finn's Report

Dr. Adam Finn submitted the following summaries along with his selection of pertinent comments made during the group sessions. A full report of Dr. Finn's comments can be found in appendix b or Frascara, et.al.

- 1 Tell us what you like most about driving?

The most common themes raised were freedom and independence, followed by convenience. Those citing freedom included some emphasizing the ability to get away from the implied restrictions of urban society, and those who were freer to do what they wanted to in the city. Those citing convenience emphasised the greater flexibility provided when using a car compared with relying on Transit. Other motivations for driving were fun and to relax. While only a few participants openly acknowledged they enjoyed speed in response to this question, others suggested they agreed in their later comments. Nobody openly rejected these views or strongly suggested driving was purely a functional activity.

- 2 What kind of things do you dislike about driving?

By far the most common dislike was the behavior of other drivers. Most participants criticised other drivers for being indecisive, inattentive, and

poor drivers. A minority of participants disliked aspects of the driving environment; rush hour traffic, traffic lights and road conditions. Note that many of these dislikes could be seen as different constraints on the highly prized freedom discussed above. Very few participants mentioned anything related to the considerable costs of driving in financial, human or environmental terms.

- 3 How do you feel about driving when other people are with you in a car? Does that make any difference to how you feel about driving?

The group participants were relatively evenly divided between those who claimed their passengers made little or no difference to their driving, and those who indicated that they would drive more cautiously with certain types of passengers, namely their own young children or older adult authority figures such as a parent or parent-in-law. A small number indicated they would still be inclined to drive more aggressively with some male friends or a girlfriend. Many more suggested elsewhere during the discussion that this was a pattern of behavior they had previously engaged in, but had given up as they matured.

- 4 What does the vehicle you drive say about you as a person?

Most of the participants raised relatively typical stereotypes about the drivers of luxury, off road vehicles, and sports cars. However, large numbers pointed out that circumstances would often mean that a person would not be driving the car which they would ideally like to be driving. A probable explanation for this was the fact that a significant proportion of the participants indicated that they had once owned a car (or motorcycle) which better matched their self image. But, due to accidents and high insurance rates, many could no longer afford such a vehicle and were now using a vehicle they would prefer not to have to drive.

- 5 What makes a person a good driver?

By far the most common theme identified was for a driver to be attentive and alert, so that they could anticipate problems and respond quickly enough to avoid them. A secondary theme which received general acceptance was the issue of courteousness. Only a very few participants raised the issue of car handling skills in different road conditions or sticking to the letter of the law. Several indicated that obeying the speed limits was not necessary to be a good driver—rather it was important to be travelling at the prevailing traffic speed. Although many participants indicated that they were now better drivers than they had been when teenagers, they tended to attribute it to maturity induced by greater responsibilities and seeing accidents, rather than simply more driving experience.

6 What makes a person a bad driver?

Most participants identified behavioral characteristics of drivers such as being cautious, hesitant, or intimidated by other traffic, and allowing other things, such as car phones or alcohol to distract them from the driving task. A minority identified demographic groups such as women or old people as bad drivers, and there was only one strong objection to these suggestions despite the fact that these groups have fewer accidents than young adult males. These groups were characterised as more cautious and slow to react to problem situations. Despite the fact that many of the respondents reported they had been in several accidents nobody suggested that they themselves might be a bad driver now, although some did report having been reckless in earlier years.

7 Have you ever been in an accident while driving, and if so, how would you describe what happened to generate the accident?

In this group all the participants who had received licence suspensions indicated that they were themselves essentially responsible for their accidents. Only the participant recruited on campus blamed the road conditions or the other driver.

8 So what do you feel are the causes of accidents?

This more general question failed to achieve its real objective of probing further into the reasons for the respondents' accidents. However, the responses provided an indication that several members of this group remained quite cavalier about their driving record, and generally denied they might need to change their behavior.

9 What do you feel was the cause of your reported accident?

Fewer participants in these two sessions suggested that they were themselves the cause of their accidents. Many attributed their accidents to mistakes or inattentiveness on the part of the other party to the incident. Common causes were poor judgement when turning left at an intersection, and inattention in rush hour traffic, resulting in rear end collisions.

d Environment of the focus groups

Before adding my own analysis of the transcript data, I want to point out some environmental factors and describe the group setting. I was not in the room during the focus group interviews because my presence as a female would have changed the nature of the discussions from self-presentation-among-peers to one of gender-influenced self-presentation. It's also important to consider the relation of the researchers to the young men. Particularly among the first group of traffic offenders, a conversation with university professors would be a relatively "unnatural" event, with the differences in age and social status playing a role in the nature and flow of comments.

With regard to the environment, an institutional setting is typical for focus group sessions, but from the standpoint of "naturalness" a more relaxed environment would permit freer flow of conversation, e.g. the living room of a peer, or a pub. However, the complexity of arranging such locations and the inability of researchers to control random events, noise levels and interference in such environments discourage their use for data gathering. The seminar room in which the sessions took place is less formal than a classroom, but still has institutional character. The room is carpeted, has floor-to-ceiling drapes along a set of windows and is furnished with long, formica tables and Scandinavian-style armchairs of the sort that might be found in a government waiting room. There is a large abstract painting on one wall, but another is dominated by a green "blackboard" for writing on with chalk. Refreshments were provided in the room to contribute some informality to the event.

Given the nature of the sessions and the potentially poor relations of some of the participants to educational institutions, it is not surprising that it took time for each of the groups to open up and for the dialog to take on a character of interchange. The first responses in each session were essentially answers to questions whereas later responses were more interpersonal and spontaneous. Signs of greater openness can be detected in comments such as "Well...since this is kind of like 'suspension anonymous' here..." (37) which preceded a personal anecdote. From the research with teen-aged males in British Columbia we should assume that any recap of a driving mishap by a young adult male must be considered sensitive, personal information.

e Focus group respondents

Although there was some consistency in the responses given across the three focus group sessions, each was different in tone and character due to differences in individual personalities, attitudes, and group interaction of the respondents. The comments of the first group could be characterized as less articulate than the subsequent two groups, and revealed a greater level of

interest in motor vehicles and driving as a hobby. The second group was the most verbal of the three and also seemed most interested in the project. While Group 2 revealed a high level of interest in driving and automotive culture, they also demonstrated a great deal of interest in safety, perhaps as a result of their involvement in injury collisions or the injuries of friends. Members of Group 3 were less open than those in Group 2 but also collectively demonstrated less interest in automotive culture. With the exception of a few members, most Group 3 participants made statements that suggested they already held safer and more defensive driving attitudes. In describing their collisions several reported having been struck by impaired drivers while stopped or in situations where it's clear that their own actions contributed little to the collisions. This is in sharp contrast to most accounts in the first two groups that clearly point to features of the respondent's driving that contributed to the collisions even where they report that the other driver was largely at fault.

The observing researchers identified social and personal differences between the Group 1 participants (the repeat offenders) and participants in Groups 2 and 3 who had been involved as drivers in injury-causing collisions, but were not necessarily "problem-drivers." The researchers would characterize subjects in Group 1 as showing:

- poorer telephone skills (through attempts to contact them)
- less residential stability (they were more difficult to contact by phone and letter)
- less willingness to participate in the focus groups
- group communication skills that were "lower than average"
- more antisocial attitudes
- less "reachable" through communication

However, by reviewing the focus group transcripts alone, it's clear that many of the beliefs, attitudes and values expressed toward driving were shared across all three groups. The analysis that follows is my assessment of the issues that were most salient to the participants and the underlying meanings of terminology they used to describe their experiences. Italics in the excerpts from the transcripts are mine.

f Analysis of the focus group transcripts

Definitions of good driver and bad driver: alertness vs. hesitation

In terms of consciously providing "good" or "right" answers to the question "*what makes a person a good driver?*" the respondents overwhelmingly responded "*alertness to the driving environment*" which, in fact, is a good answer and is a prerequisite for defensive driving. However they often qualified alertness in terms of offensive rather than defensive driving techniques. Several of the

respondents described the quality of alertness as a precondition which allows one to drive at the speed and in the manner one chooses. When mishap occurs, one's mastery of the vehicle and handling skills will permit one to escape harm. The following responses illustrate this chain of thought.

What makes a person a good driver?

- Group 1 *"Somebody who is always alert. I mean they might take a chance or two, but who doesn't? But, so long as a person's alert, they're not sloppy."*
- Group 1 *"You can go as fast as you want to...you can drive how you want, as long as you are aware, alert of everything around you."*
- Group 3 *"Anticipation is very, very important...I think a good driver is also a person who's aggressive. Who can maybe get himself out of a situation because he's learned to be aggressive."*
- Group 3 *"Someone who's very conscious, very aware, and somebody who can foresee quite a few things...sort of being aggressive and being able to get out of a tough situation by thinking quick."*

The assertion that "alertness" makes a person a good driver was generally coupled with the belief that "hesitation" makes a person a bad driver. Hesitation was not viewed as a sometimes appropriate response to "alertness," but rather a sign of lacking confidence in one's driving skill.

What makes a person a bad driver?

- Group 1 *"City women...they tend to be more cautious, overly cautious, unsure, they don't want to take any chances...whereas a guy, he will look at the situation by himself, and he will go do it. If it's wrong, it's wrong: if it's right, it's right."*
- Group 1 *"Maybe it's not bad just to sit back, but they're maybe a little more hesitant, maybe a little more frightened behind the wheel."*
- Group 2 *"Driver hesitation."*
- Group 2 *"People who don't have any confidence in their driving ability...been in an accident...they have lost that ability to make a wise driving decision."*
- Group 2 *"Some people who aren't confident enough and some that are over aggressive. I think you could be safely aggressive...I'd have to say at least the people who are aggressive are at least aware of what's going on."*

The belief that hesitation is not an appropriate response when driving (or may reflect badly on one's competence as a driver) may correspond to the frequency with which the respondents reported having driven into vehicles they assumed would go forward, but didn't.

Group 1 "I hate that intersection, because it's really stupid...I'd always take a shortcut and look about 35 or 40 feet behind...I'd just kind of ease slowly toward the stop sign, *knowing there wasn't any traffic*, then I'd just keep on going, wouldn't bother to stop. And there was a truck in front of me...I must have made a mental judgement in my head that he was going to go...so I didn't bother braking that much...by the time I realised he had slammed on his brakes, it was too late."

Group 2 "In the first one I was trying to change lanes, and I was shoulder checking. *The guy in front of me wasn't paying attention to what he was doing*, and he slammed on his brakes, rear-ended the car in front of him, and then I rear ended him, and *then the guy behind me wasn't paying attention* and rear ended me."

Group 3 "I was looking for oncoming traffic, no one coming, *figuring that the car in front of me was already gone*, drove into the back of him."

Group 3 "I was kind of my fault, I should have been hanging back a little more, but on the other hand, I think it was his fault too, because *he shouldn't have been trying to stop so hard*."

Group 3 "*I figured that they would pull out half way through the intersection*, and I started rolling slowly... She'd rolled five feet and stopped, and I just rolled right into the back of her."

In these accounts it is not one's own lack of caution so much as the other drivers' hesitation that is seen as the primary cause of the collision, even though the respondent really has no way of knowing to what stimuli the other driver may have been responding when braking. Travelling too closely to the other vehicle and at a rate of speed that did not permit braking or choosing an alternate path was not reported as the primary cause of collision, rather "the guy in front of me wasn't paying attention to what he was doing." A number of respondents reported various situations where they felt they were "forced" to exhibit bad driving by the actions of another motorist in ways that imply that collisions and near misses are inevitable.

Group1 "I *had to lock up brakes* because he was turning."

Group 2 "O.K., basically it's other drivers i.e. going slower, or just in respect to trying to cut me off, and *having me slam on my brakes* or swerve. It's other drivers."

Group 3 "You are never going to get rid of accidents 100 percent. *That's why they're called accidents, right?*"

Participants in Group 1 were less likely to report that reducing speed was an acceptable response to changing traffic circumstances or potential hazards. Being perceived as a less skilled driver by reducing one's speed would appear to be a greater threat than the possibility of a collision.

Group 1 "If you are aware, and *obviously a good driver*—offensive and defensive driver so to say—you *will speed*, and sometimes you will be caught. That doesn't say anything about your *driving ability*. It doesn't say anything about your *reaction time* or your *alertness* when you are in a situation where *an accident is inevitable*. It doesn't say anything other than that you were speeding, you were going 80 in a 60 zone. Big deal."

Participants in Groups 2 and 3 were more likely to report that reduced speeds could play a role in preventing collisions. Alertness and reaction times were still viewed as skills that should permit one to avoid collisions while exceeding posted speeds.

Group 2 "So it was a combination...if I wouldn't have been going so fast and I hadn't been that *inattentive* for that split second, *I think I still would have had a shot*. But at 140 k's in a Jeep and there's a dead stop, and you've got half a light post's distance, you can't do nothing, you're just locking them up and making sure you're trying to save, and minimise the damage."

Skill in handling the vehicle

While not necessarily in direct response to the key questions of the discussion, the respondents frequently referred to manual driving skills and vehicle handling as important components of good driving. Learning to drive at an early age and testing the capability of vehicles were described as traits of a good driver, especially among members of Group 1. Some respondents felt that women in particular lacked these skills.

Group 1 "I think it's just *the ability* that women learn how to drive is different than the ability that men learn how to drive."

Group 1 "A lot of women, they start learning how to drive, what sixteen, seventeen, eighteen...meanwhile, guys, *I was driving when I was ten in the parking lot, right?* By the time I was fourteen I was *driving like anyone else*."

Group 1 "Like *you don't see a girl out there doing donuts in the parking lot*."

Group 1 *"If I've got room, I'll do a donut."*

Group 1 *"I'll do cubes and that, twenties."*

Group 1 *"I think the best car drivers in the world are in Formula 1 circuit, so with that in mind, to be a good driver you need good reflexes, good awareness, and a lot of patience. It may sound weird, these guys are going 300 kilometres per hour, what do they need patience for? But, they are also driving half a million dollars pieces of machinery, and turn the wheel a fraction too much one way they are dead. It's a lot different being a good driver on the street, but I think you need those three basics."*

Group 2 *"Skills. You've got to have the basic skills down...There's some people that don't have the basic skills. I'm sure that you couldn't get them to close their eyes and pull off away from a curb that they've just backed into. They would be very scared."*

Group 2 *"I love driving ever since about eight on the farm...I like driving aggressive and whatever, I like speed and getting there as quick as I can."*

Mechanical knowledge

Several of the respondents emphasized knowledge of motor vehicles, keeping them in good mechanical repair, and knowing their capabilities as being marks of a good driver.

Group 1 *"I don't like it when people don't take care of their cars...that's over and above attitude, that's just plain common sense."*

Group 1 *"Maintenance is a big part of it. You tend to find people who maintain their vehicles care a little bit more about what they're doing."*

Group 1 *"I think the car you drive says a lot about you. I think the condition your car is in says a lot more about you."*

Group 3 *"How well you know the car is also a great factor. I believe that, for myself anyway, I drive a vehicle to its potential."*

Absence of these qualities, conversely, makes someone a bad driver.

Group 1 *"Just the opposite of everything that makes a good driver—poor reflexes, poor knowledge of their surroundings and their vehicle."*

Group 3 *"I think the worst is the lack of knowledge of the road and their own vehicle."*

Knowledge of a particular route

Several respondents in Group 1 expressed the belief that getting to know a particular route and the characteristics of a stretch of roadway were marks of a good driver. In their view, familiarity with a particular street or road permitted one to drive it at higher speed. They did not suggest that a driver ought to alter his or her driving to take into account other drivers that at any given moment might be using a particular roadway for the first time.

Group 1 *"Like, I usually travel basically the same route all day long. I know where the bumps are, I know where the curves are, I know where the cops are. I mean, I know where Birks parks every day at a quarter after twelve and at three o'clock."*

Group 1 *"If you are driving home say, for example on Groat Road, you know where the S turns are...Don't you have a tendency to test the road?... And when you know there's nobody else, and it's a safe chance, you've got to take the chance."*

Group 1 *"I had never really worried about that corner because I knew it was a no-fault situation."*

Group 1 *"I think if you are on a road that you don't know, I think you should be in the appropriate lane."*

Control

This concern with mastering a particular stretch of road seems related to the desire to demonstrate control when driving as a measure of personal competence. A number of respondents in Group 1 also mentioned that they were not comfortable as passengers when other people were driving. It was important to them to feel that they were in control of the vehicle.

Group 1 *"You can't even take the wheel from the bus driver and say 'hey!'...It's the restriction of not being in your own vehicle, not being in something where you're in control."*

Group 1 *"I don't like it when I'm not driving. Unless it is somebody I trust, and there is only about a handful of people in this world that I trust to get into a car with."*

Group 1 *"I've been on the back of motorcycles where I've been scared. That's not fun at all."*

Group 1 *"I do get edgy when I'm sitting in another person's car in the passenger's seat for example."*

Competition

When discussing driving several respondents mentioned competitiveness and demonstration of prowess as features of driving that still had importance to them, especially in Group 2, even though most reported that overtly wild driving was something they had done as teenagers, but had since given up.

Group 1 "I like to go fast myself. *Race* down highway two."

Group 2 "Speed. Actually games out there that happen. Like you get in there with people, *a little competition.*"

Group 2 "Look, I've got nothing against the guy that comes by. If I'm driving aggressively for a living. *If he beats you to the outside lane or something, whatever...you're outdriven, that guy was smarter.*"

Group 3 "The higher end car, *you're going to try showing it off more...If you drive a beater, if it's not tuned properly, you might not be able to take that chance* if you try to make that lane change. If you have a faster car, and you believe you can make that change, *or you may not believe it, you'll try anyway.*"

Group 3 "There are times when *you can be a bit reckless...there's a chance somebody will cut you off* or what not."

Group 3 "I hate driving a small car that's...absolutely gutless. You know, you see somebody cutting you off, *you cannot do anything about it.*"

Group 3 "A good driver is always *in control.*"

"Rules of the road" vs. traffic laws

Many respondents mentioned that knowing the "rules of the road" was a mark of the good driver, but observing traffic laws was not essential, especially speed laws. In this context "rules of the road" are understood to be accepted, unofficial codes of behavior that differ from the official laws on the books since the latter are seen to be too restrictive for good drivers.

Group 1 "I'm sure everybody who has driven the highway has followed the normal speed of the traffic *which isn't 65 miles an hour, or booted the law* in it. It's a good feeling."

Group 1 a) "I don't think you have to obey every single *little law* to be a good driver." b) "*So long as you are aware.* You know what's going on at all times."

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- Group 1 *"Just because you lose your licence doesn't mean you are a bad driver. Firm I work with, forty or more [employees], and I know every one of them drives every two or three years without a licence. I mean, during the summer you are granted at least two tickets a month."*
- Group 2 *"O.K., getting away from speeding, there's, like, the police set up speed traps all the time. I really think those are a waste of time... I wish they would spend more time on illegal lane changes."*
- Group 3 *"A lot of tickets are speeding tickets...but, you'll get a main drag where traffic's flowing fine—there's no problems....and people are going maybe ten or fifteen kilometres over the speed limit. Which, they're breaking the law, but, in fact, they're not doing anybody any harm..."*
- Group 3 *"Tickets are a lottery, cheap shots, a whole lot of them."*
- Group 3 *"Police. Tickets pretty much as a fund in order to raise revenue for their pensions."*
- Group 3 *"Maybe a person's doing a U-turn on a street that's completely abandoned at three o'clock in the morning, cops are around the corner, he's going to get a ticket. That doesn't constitute a bad driver, this guy could be a great driver."*

Advice to other drivers

When asked the question *"what can we do to help people avoid accidents in the future?"* respondents in Group 1 tended to stress manual driving skills.

- Group 1 *"I think that a lot of people have to be retaught, if you will, how to drive on the snow and ice...people not knowing how to react in a certain situation... if you are sliding, a lot of people tend to slam on their brakes and that's the last thing you should do. Whereas, if you were to teach somebody to slip into neutral, and lightly touch on your brakes..."*
- Group 1 *"Use ABS [Anti Brake-lock System]."*
- Group 1 *"ABS, exactly. A lot of people don't know, or really can't. A lot of people have to be educated about exactly what to do."*
- Group 1 *"I think what you have got to do is take these people who are learning to drive, and put them in a situation where look, look what's going to happen, crassshhh! Simulated, Simulated!"*

Respondents in Groups 2 and 3 were more likely to recommend driver education that stressed attitudes and defensive driving or stiffer penalties for driving infractions such as impaired driving. They were particularly adamant that traffic safety education should begin with grade school children.

Group 2 "Hell, start grade one, two and show the kids. I don't know if it has to be drinking and driving, but *start showing them accidents, speed. When their mind doesn't care but it's in there working.*"

Group 2 "High school is *too late because they have already made up their mind.*"

Group 2 "I think if you started lower than people give kids credit for, in ten years you will see these kids coming up and *it ain't the cool thing to be driving around pissed.*"

Group 2 "I also think tougher laws...I think [now] if you get stopped for impaired... you get a 24 hours suspension. I think it should *automatically be one year...after that, five years.*"

Group 2 "I hate to say it, but *hit me.* You pay for cabs for a year. Now it's nothing for me to take a cab."

Group 2 "I think it's a lot more education too, because I've had to take about five weeks of driver training through the army and *the road testing there is sixty times harder than you will ever take at old Alberta Solicitor General.*"

Safer attitudes

Most of the preceding sets of comments were isolated from the transcripts because they contain definitions in the young men's own terminology of concepts such as "good driver" and "alertness" that may contribute to their over-representation in injury collisions. During the discussions a number of comments were made that indicate, at the very least, an awareness of "safer" and more defensive modes of driving, as well. We believe that the existence of this base level of awareness of collision avoidance is an important foundation for any communications program directed toward this group. A few examples of these "safer" comments follow.

Group 2 "Getting home the message that the *risks aren't worth it...Running yellow lights, that risk isn't worth it.*"

Group 2 "Well, *speed* must be an obvious killer... *it causes the most accidents.*"

Group 2 "Well yeah, the guy that's always got to be ahead of someone. Like you were saying, *please be courteous, alternate and let people in.*"

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- Group 2 *"Comes to an intersection now, if I see someone turning left, you never know what they're thinking. You've always got to wonder what's going through their mind."*
- Group 2 *"If you are in a hurry, something will happen on the way."*
- Group 2 *"Sometimes a very good driver can be a bad driver in that he becomes unaware because he drives the same route back and forth."*
- Group 3 *"I think a bad driver is a person that's very egocentric and immature. Cares for himself and nobody else."*

Responsibility for collision

As Dr. Finn observed, repeat offenders tended to report that they were responsible for their own collisions citing inattention, excessive fatigue, over-the counter drug use (as temporary impediments to "alertness"), and speed as expressed in the comment, "I've had quite a few accidents. Most of them I was going too fast." They appear to be conscious that they drive at, and at times beyond, the limits of their ability to control the vehicle, but continue to do so. When asked what kind of advice they had for other drivers none of the repeat offenders mentioned reducing speed, avoiding certain kinds of driving situations, or maintaining a margin of safety between their vehicle and others. Rather, they had advice about specific vehicle handling techniques once in a crisis. They appear to associate these handling techniques with good driving and to disassociate crashes from bad driving. Crashes are perhaps seen by them as part of the learning process of becoming a "good" or "skilled" driver in much the way injuries have traditionally been viewed as a consequence of becoming a skilled athlete.

Some drivers from the injury collision group admitted that excessive speed contributed to their collisions, but most tended to blame the other drivers or report that there was nothing they could have done to prevent their collisions (in a minority of the collision descriptions this would appear to be true). This suggests that while some of them are driving at or beyond the limits of their ability to control the vehicle *they are less conscious of it than the repeat offenders who do so intentionally and in a more pronounced way.*

It's significant that in the second two groups most of the recommendations had to do with educating drivers about the risks of driving, whereas the repeat offenders talked about handling skills. Group 2 advised impressing safe driving attitudes in young children; Group 3 advised education about specific hazards and listed ways of altering one's driving to reduce encounters with hazards such as "always leave yourself an opening," "back into your parking spot," "plan your route," "let the guy know you are there."

Wild driving

A number of the respondents in Group 2 recounted that when in high school they had engaged in intentionally wild stunt driving or had been immersed in a culture that endorsed heavy drinking and driving, but that they no longer did such things. (Their descriptions of their driving behavior in high school were actually wilder than accounts from Group 1). This seems to correlate with Stoddart's study (in Rothe 1987, 153) in which younger teenagers expressed that they intended to engage in stunting or wild driving for a while, but that they didn't expect to when they got older. It supports the idea that certain kinds of wild driving are considered normal rites of passage expected among young males. Comments to this effect include:

- Group 2 "I couldn't help noticing that everybody here, we've already gone through *the shit zone..that 14 to 16 years.*"
- Group 2 "I think it's just a shitty coincidence of life in our society how *booze and cars come together at the same time* for the first time in a kid's life."
- Group 2 "Growing up *you were a wimp if you couldn't slap five stars across your forehead and make it home...We drove a lot and drank and we hit ditches, and you'd be out there pissed hauling the cars out.*"
- Group 2 "One accident where one kid paralyzed himself on Groat Road during the summer. There was probably *a dozen of us racing down Groat Road during rush hour...He had panicked, and on a bike you can't ever hit your brakes....he was probably doing 160 clicks, upright position, with his brakes locked on Groat, so obviously...*"
- Group 2 "We can tell you *what we felt between 14 and 16*, you know how crazy...*we used to be animals*. But, now you don't want to talk about it and you are getting more mature."

Change of attitude

Several members of Group 2 expressed anger at feeling they had to experience the death or permanent injury of a friend before their behavior changed.

- Group 2 "*I sure wish I had a different attitude* when I was going through especially 17, 18 and 19."
- Group 2 "I find myself more and more with my younger cousins talking. Jesus you get mad, and you howl and scream at them, but you can't get through to them...*until just after you blow your first friend, go to your first friend's funeral .*"

¹ Expressing gender identity is less difficult for young women since in adolescence they begin to menstruate, grow breasts, and continue to interact intimately with their mothers much as they did in childhood. Physical changes in preparation for childbearing are clearly seen as feminine. For young males, however, overt signs of gender identity such as facial hair and a deep voice develop more slowly and sometimes incompletely. Young men are expected to break the intimate bonds they formed with their mothers as small children and separate from them. Whereas adoption by young women of traits culturally identified as masculine such as intellect, athleticism, and assertiveness are usually seen as positive, the reverse is true for young men. It is viewed as highly undesirable for young males to adopt traits traditionally identified as feminine such as emotional sensitivity, nurture, or domesticity. Young males must therefore find outlets through their interests and activities that clearly identify them not only as "not female" but also as "masculine" in their own right.

This last speaker described the influence of an unidentified pressure to not wear seat belts that he considers related to the other pressures. He doesn't explain where the pressure was coming from or cite specific connotations of wearing or not wearing the belt, but his description of his behaviors seems revealing with respect to the social pressures on young men.

Group 2 *"Another one that kills me too. The seat belt one. Two years ago when they did it the whole city bitched...now it's down to the odd diehard idiot that's bitching about it. And when they came out with it, I loved it, because when it was law I would wear them. Before I wouldn't, I knew it was good for me, but I wouldn't. Now it's law. When they laid off there for that little period...I went right back to not wearing them, and I was glad they came back."*

These are comments made by young men looking back in reflection and under conditions of wishing to appear mature, but they also suggest that at least some young men might be grateful for a redefinition of competent male driving. They spoke positively of the cultural changes that they see with respect to acceptance of designated driver programs.

Group 2 *"There's no doubt it is on people's minds...you've got 99 percent of the people there going, 'well, someone stay sober tonight if we are going to go bar hopping'. Christ, before it was whoever was the drunkest got to drive, because he was the craziest."*

There was a hint of resentment that they had not had the same influences.

Group 2 *"I feel half cheated, but half of me is saying this is right, and we are just unfortunately the switch over group."*

Automotive culture

Description of wild driving as a mark of the teen years is perhaps the strongest difference between the injury groups and Group 1. Members of Group 1 did not describe their driving as crazy in either the past or present tense, but rather as "skilled." They also appeared to have a deeper involvement in what might be termed "automotive culture." Most members of Group 1 stressed knowledge of the motor vehicle and willingness to test its potential as characteristics of a "good driver." A few reported driving for a living.

In its social context "automotive culture" would include elements such as tinkering with, fixing or building motor vehicles, customizing, painting or decorating motor vehicles, attending auto expositions, reading automotive magazines, following racing sports, buying, selling and trading cars, and stunt driving. "Automotive culture" can be seen as an outlet for identity expression

just as participation in athletics or the debate club reinforces social identity (Stoddart in Rothe, 1987, 180).

While members of the repeat offender group showed the greatest identification with “automotive culture,” it’s important to acknowledge that interest in and involvement with motor vehicles exists across all male demographic categories. “Automotives” and “motoring” have traditionally been masculine domains like football or hunting, which serve the primary purpose of distinguishing one as “not feminine”¹. Automotive culture shares with hunting, contact sports and military service elements of danger that permit expression of traditional “masculine” traits such as assertiveness, risk-taking, dominance, and skill or prowess. Successful adult males are able to exhibit these traits in business, political, academic, and social spheres and are usually rewarded with money or recognition for their accomplishments, as well as the approval of women.

Automotive culture is linked to the role that motor vehicles play in North America (and globally) as symbols of social status. Specific models convey widely understood social messages about the owner, whether supported in reality or not. Comments from the focus groups mirror these associations.

Group 3 *“If you’ve got a Corvette, it’s a toy. If it’s a Mercedes, maybe you want a bit of class.”*

Group 1 *“My RX7 used to say a lot about me, but now people look at my truck and go, ‘he’s broke’.”*

It’s significant that the models of vehicles with greatest connotations of wealth, power, and social status are also outside the reach of most young men because of higher costs. Teen-aged and young adult males from higher income families generally have greater access to vehicles that satisfy identity needs without further involvement in automotive culture on their part. Young middle and upper income males also have greater access to the athletic, academic, and cultural activities that provide traditional opportunities for success—activities that typically require some investment of money and leisure time on the part of their parents. Mechanical involvement with motor vehicles and high speed or stunt driving, therefore, provides an outlet for masculine expression among young males outside of structured, parent-supported and organized environments. Ken Stoddart discusses this involvement, especially among lower income males, in the context of Goffman’s theories about character display and as part of a larger pattern of “making do” with available resources to secure one’s identity. Identification with automotive culture as a masculine trait is strongly reinforced by mainstream advertising, entertainment, sports media, and many parents as well as peers. Stoddart summarizes the situation as follows:

Risky recreational driving is rendered attractive not by adherence to a bizarre morality unique to some drivers but by their exaggerated evaluation of widely circulating values that equate driving with masculinity. In a very strong sense, then, our risky recreational drivers are over-conforming (in Rothe, 1987, 182).

An example of the pervasiveness of identification with driving culture, but also differences in degree of involvement and response patterns was apparent in Group 1. The university student recruited on campus identified as Respondent C (who was not a repeat offender—he reported one non-injury collision and three demerit points) expressed strong identification with aspects of automotive culture.

Resp C *"I have a four wheel drive vehicle and I like to take it off and go rocking through the road in that. I'm sure there's people with sports cars who like to go for a little boot to higher speeds just for the fun of it."*

Resp C *"I find if I'm driving with someone who gets a little nervous I'll sometimes do things to kind of scare them a little, just for the fun of it."*

Resp C *"I think males when they turn sixteen, they want their licence so they can drive. It's status quo, because the male is the one who drives to dates, and is the one who has the car in high school to drive around."*

However, when asked the question, *"what makes a person a good driver?"* the student responded *"someone who knows the laws and obeys them at all times."* This comment strongly contradicted comments made by others in Group 1 about nonobservance of laws and definitions of good driving. (It also may represent a greater inclination to provide "right" answers to direct questions by authority figures.)

The student qualified the statement about observing traffic laws with the explanation that *"people don't know how to merge, and it really aggravates other people if they do not go when they are supposed to, and they are stopped when they shouldn't be...and you're sitting there at the back waiting for them to go."* While the comment contains elements of *"expedience"* it also has to be recognized as a fairly mainstream response to a common driving aggravation. It reveals what could perhaps be considered the normative level of *"expedience"* that most of us exhibit when driving—*"someone is in my way, my progress is impeded, my safety is threatened."* Most North American drivers when discussing driving will make statements of this sort accompanied by some level of emotion, with the possible exception of the elderly who will more readily mention aggression and impatience in other drivers as aggravations (Rothe, 1990b, 296).

Differences in conceptualizations of driving with respect to safety were evident when Group 1 discussed the question “*so what do you feel are the causes of accidents?*.” Respondent C reported that he had altered his driving to avoid situations similar to those that lead to his collision. “I learned from my accident to be more aware of conditions, and to plan my route better is one thing I found too.” The other members of the group reported learning to negotiate “this corner” or “that intersection”, but did not speak in terms of projecting their crash experiences to the bigger picture by systematically altering overall driving patterns such as reducing speed or “planning my route better.” Instead their emphasis was on staying alert or perfecting manual skills.

g Summary of the focus group data from a visual communication design perspective

When we began this study our defined target population was the “high-risk” 18-24 year old male driver. Concepts from the literature and our initial experience with the focus groups have shifted our attention away from the extremely high-risk male driver (the small percentage of the population heavily involved in motor vehicle collisions) and toward a group that might be considered “collision-vulnerable” members of the general population.

The literature suggests that the personality profile of the highest-risk group predisposes them to injury, whether by motor vehicles or other causes. This profile includes low self-esteem, low rates of school completion and poor academic performance, lower income levels, broken employment records, poor social adjustment, chemical dependency, and high correlations with suicide as well as high rates of abuse and neglect during childhood. These characteristics are deeply internal to the individuals and it’s generally understood that public safety communications will have little effect on their driving behavior. This group requires intensive, one-on-one intervention from law enforcement or social service agencies to effect behavioral change. Participants in the first focus group, drawn from a pool of repeat traffic offenders, may have included members of this highest-risk category. The perception of the observing researcher was that, as a group, they were less “reachable” than participants in the following two groups.

Participants in the two later sessions were drawn from a pool of 18-25 year old males involved as drivers in injury-causing (but not serious or fatal) collisions. While involvement in these crashes did not necessarily imply “high-risk” driving behavior on their part (Gebers, 9) it may put them in a category of the population that shares *under-identified beliefs* that lead to a vulnerability toward collisions. While all participants in the groups except one had experienced crashes, members of the second two groups were both more interested in safety issues and more receptive to ideas about preventing

collisions than those in the first. They also seemed to represent a broader or more “normal” demographic cross-section of the public to the observing researchers.

These observations suggest directing communications to a new target group—members of the general 18-24 year cohort that may have identifiable beliefs about driving that make them vulnerable to involvement in crashes. These beliefs are assumed to be deeply rooted in normative social expectations about young male drivers and about how one *ought to* drive that are not reflective of psychological problems. Comments made in the groups suggest that such individuals may also be receptive to appropriately framed persuasive or educational messages about “safer” driving at a broad cultural level.

Some characteristics of this vulnerable group may include:

- Higher than average interest in the social and technological culture of driving and motor vehicles
- Identity-seeking through automotive culture
- High value placed on feelings of personal freedom experienced while driving and especially on the physical sensation of driving fast
- High value placed on technical knowledge about vehicles
- Recognition of the importance of alertness to the driving environment, but in practice, a greater belief in reflexes, skill, and vehicle handling as means of preventing collisions
- Over-estimation of one’s ability to handle a vehicle in a crisis
- High value placed on getting places fast—possibly related to “expediency”, a trait identified by Levonian as “an orientation toward self benefit at the expense of others” (Rothe, 1987, 15), that is rewarded in traditional environments such as business and politics
- Inclination to satisfy social expectations about driving or other activities that may override one’s own perception of danger
- High value placed on the sense that one is in control of the vehicle
- Use of automotive culture as an expression of masculinity

a Purpose of the survey

The greatest limitation to focus group research is that data gathered in group interviews, no matter how qualitatively rich, are not generalizable to a larger population, in this case the total population of males aged 18-24 in Alberta. Two questions that remained after analyzing the focus group data were:

- 1 *Are the attitudes and values toward driving expressed in the focus groups, especially the value of 'control' (defined as the ability to demonstrate a high level of skill in maneuvering a vehicle while driving) unique to this group of participants or are they normative values widely held among young adult male drivers in Alberta?*
- 2 *If these attitudes and values are expressed by some members of the larger study population, does expression of them correlate in any way to greater involvement or risk of involvement in casualty collisions than is experienced by others in the cohort not expressing them or expressing different values with respect to driving?*

The second question is related to the proposition that a vulnerable subgroup exists that can be identified by its members' above-average level of interest, involvement, and identification with "automotive culture" that transcends traditional or purely demographic definitions of the "high risk" driver. In order to arrive at more generalizable insights we decided to conduct a survey.

b Survey plan

The survey was designed around the above two questions. We collected data in four broad areas to approach the questions from several angles and to cross-reference new categories with traditional ones.

- 1 *Media preferences questions*— Brief data were collected concerning the respondent's use of public media including preferences for television programming, newspapers, and types of magazines. Responses from this section will be used to recommend types of public communications most likely to reach males in the age range. A more complete inventory of media use and preferences should be gathered to determine channels and scheduling for final media placement for a campaign.
- 2 *Vehicle use and driver education questions* — Questions were asked to determine where and to what extent respondents used motor vehicles, their preferences for types of motor vehicles, numbers of vehicles owned, the age at which they learned to drive and how they learned to drive. These questions help to define what might be referred to as the respondent's level of involvement in "automotive culture."

The respondent's reported reading of automotive magazines at least once a month is also part of this set.

- 3 *Values and attitudes toward driving* — These questions were designed to measure (so far as is possible in a survey format) values and attitudes of the respondents toward driving and some specific driving behaviors. Some of the questions position beliefs or actions on relative scales in terms of strength of feeling or frequency of occurrence; others ask the respondent to select one value from a group of other values. A key question about the value of "control" asks respondents to rank four values in order of their importance to them for avoiding collisions. The section also includes an open question about what makes the respondents "*most angry about other drivers on the road*" that was analyzed qualitatively.
- 4 *Demographic questions* — The final page gathers standard demographic information from respondents including age, education, household income, marital status, and the number of demerit points counted against the driver licence.

A printed sample of the Driving in Alberta Survey can be found in appendix b.

c Survey respondents

The survey was designed to compare responses from two groups of 18-24 year old drivers—one considered a potentially "vulnerable" population, the other a control group. The first group consisted of the remaining names on the list drawn by the Alberta Solicitor General's office, Motor Vehicles Division, of males aged 18-24 years old involved as drivers in injury causing crashes in 1990 (those not contacted to participate in the focus groups). This group is referred to as the *injury group* in all discussions of the survey results.

The second list of names, also supplied by the Solicitor General's Office, was a random sample of drivers from the total set of Alberta male drivers aged 18-24 *not* involved in injury-causing collisions in 1990. This group is referred to as the *non-injury group*.

It's important to keep in mind that the only characteristic distinguishing the two groups was whether or not the individuals had been involved as drivers in injury-causing collisions. As mentioned earlier some drivers in the injury group may hold essentially safe beliefs about driving, and some in the non-injury group may have attitudes, demographic characteristics, or personality traits, that *as individuals* put them at higher risk of collision than some members of the injury group. The distinction was made between the two

groups, however, to test at the aggregate level whether the beliefs we have identified as related to collision involvement are discernable to a greater extent in the group identified as having a greater likelihood of experiencing collisions in the future than among the general population of young male drivers.

As we did when establishing the criteria for selecting focus group participants, we omitted names of young males involved as drivers in *fatal* or *serious injury* collisions, since we determined that such involvement could be a life-changing event capable of permanently altering attitudes and behaviors in a driver.

Reported ages

By the time the surveys were sent some respondents reported ages of 25 and 26, but we have included these responses in the study since higher risk of traffic casualty in males exists through the late twenties to age 34 (Mayhew, 53). When the records were drawn the respondents were 18-24 years old.

d Design of the survey

The survey was designed where possible to follow standard survey design practices (see appendix a). The survey opened with relatively non-threatening questions about the respondents' use of public communications media and moved through straight-forward questions about driver education and vehicle use before introducing sensitive questions about attitudes toward driving. Highly sensitive demographic questions such as level of education and income were placed at the back. The most sensitive questions of the survey, "Do you currently have demerit points on your driver's licence?", and "If so, how many?", were placed at the end.

Some of the questions appear unconventional because they contain more than one "good" answer as is the case with the following multiple choice question:

- Q26 A good driver is someone who...
- 0 is confident and skilled in handling the vehicle
 - 0 stays alert to the driving situation
 - 0 obeys all posted speed laws
 - 0 leaves enough room for error between his vehicle
 and other vehicles on the road

Such questions were intended to serve as back-up questions to Q30, the ranking question shown below, that asks respondents to order by rank several strategies for collision avoidance. In order to answer the multiple choice question, Q26, the respondent must also "rank" the possibilities mentally without necessarily being as aware of the ranking process as in Q30.

Q30 Please rank the following in order of their importance to you in avoiding accidents while driving. (#1 most important, #4 least important)

- _____ Good handling skills and reflexes
- _____ Courtesy to other drivers
- _____ Following the rules of the road
- _____ Alertness to other drivers

It was important that all the answers to both questions be “good” ones, because respondents will want to present themselves in a positive way. Two opportunities for analysis are possible from the responses. First, does the response to the multiple choice question agree with the respondent’s reply to the rank order question? And, second, what percentages of the population appear to value one or another of the responses over the others?

Because many of the questions were new to this survey (some experimental) and the researcher new to the survey design process, it must be assumed that there are errors in the design that could be eliminated if a similar survey were administered in the future.

e Survey mailing plan

A test sample of 100 surveys was mailed to each of the two groups to see whether response rates would warrant the cost of postage to continue. The test mailing was followed one week later with reminder postcards asking respondents to mail their surveys if they had not already done so (appendix b).

From the test mailing of 100 to the *injury* group, 11 were returned to us as unmailable and 29 completed, valid surveys were returned for a response rate of 32%. From the test mailing of 100 to the *non-injury* group, 12 were returned as unmailable and 28 were returned valid for a response rate of 31%.

An additional 220 surveys were then mailed to the *injury* group to bring the total to 320 mailed. 27 were returned as unmailable. Including the first sample mailing a total of 78 surveys were completed and returned valid for an overall return rate of 27%.

An additional 1000 surveys were mailed to the *non-injury* group to bring the total to 1100 mailed. 144 were returned as unmailable. Including the first sample mailing, 220 completed surveys were returned valid for an overall return rate of 23%, minus those returned as undeliverable. Ten returned surveys were judged to be invalid for various reasons.

The slightly higher rate of return from the injury group may imply greater interest in motor vehicle safety as a result of their injury collisions, or reflect a generally higher level of interest in “automotive culture.” Since the survey results indicate only slightly higher levels of interest in the latter, a logical conclusion would be that involvement in an injury collision increases the salience of safety issues for these respondents. As communication designers, the positive response from this target population is encouraging, since it implies receptivity to dialog about traffic safety issues.

f Notes on analysis of the survey

Before proceeding with an analysis of data from the survey, it’s important to qualify the findings in several ways. First, as with the focus group data, all responses to the questionnaire must be regarded as statements of self-presentation. Because mail surveys are anonymous, there is less incentive for respondents to try to “please” the researcher or to answer falsely than in face-to-face interviews. (In this respect mail survey data are considered somewhat “cleaner”). Responses, however, are still perceived by respondents to be reflections of the “self” and people will attempt to present themselves in a positive light regardless of the channel. Self-presentation can also be subconscious. In many circumstances we present ourselves to others the way we *think* we would like to be perceived rather than the way we really are. This is as true for survey responses as it is for group discussions (Sudman, 6).

Much of my analysis compares responses from the injury group against those of the non-injury group. While we recognize that involvement in an injury-causing collision does not automatically imply risky or high-risk driving behavior, as discussed above, we do consider the injury group to collectively represent a subgroup of greater vulnerability (see page 27).

My analysis also examines the number of demerit points on the licence (as reported by the respondent) in relation to collision involvement and attitudinal responses. While it could be argued that demerit points indicate only the number of times a respondent has been “caught” at driving activities which are illegal, or has been unfairly targeted by police, (Heustenstamm in Rothe, 1987, showed that police ticketing can be discriminatory, 13), other studies have shown that accumulation of demerit points correlates positively with problem driving, collision-involvement and injury (Gebers, 14). For the purpose of this study we have accepted the cumulative weight of findings compiled by government and insurance sources that demonstrate that demerit points do correlate with problem driving.

Some respondents marked “*don’t know*” in response to the question “*If so, how many [demerit points]?*” A “*don’t know*” response probably indicates at least one offense, since a person who has never been stopped nor received any violation could respond “*no*” with certainty, but someone with at least one past violation (and who chose not to lie about it) would be more inclined to answer either “*yes*” and provide a number, or “*don’t know*,” either because he honestly doesn’t know how many or because he would prefer not to reveal the number. However, we did not count “*don’t know*” responses as affirmation of points when analyzing the results. Their values were converted to zero.

Every effort was made to provide response choices that were not clearly identifiable as “right, or wrong,” or “good, or bad,” since the legal nature of driving prevents certain driver actions from being viewed as morally neutral. Laws regulating driving are widely understood, although not always observed, and driver training manuals and tests are clear about which behaviors are officially considered safe and correct and which are not. We have therefore assumed that most respondents will be reluctant to mark a choice that falls too far outside standard definitions of legal driving practice. Any mark or statement of this sort should be considered a somewhat stronger statement than it may appear verbally on the scale.

g Responses to open questions on the survey

The most vivid set of responses on the returned surveys were those provided for the open question Q21 “*The thing that makes me angriest about other drivers on the road is....*” By working backward from actions perceived to be wrong in other’s driving the comments revealed remarkably consistent definitions across the cohort of how driving ought to be performed—what I refer to as their “conception of the driving task.”

Conception of the driving task

The overwhelming impression left by respondents from both the injury and control groups was that *males in this age group predominantly conceive good driving to consist of a continuous flow of uninterrupted forward motion, ideally at high speed.* In this respect their responses were not much different from those expressed in the focus groups as characterized by the first remark in the first session by Respondent A of Group 1—“Just the freedom of the road, you know, to go short and long distances in the shortest possible time” (Finn, 19).

The principal complaint about other drivers on the road was that they impeded this free flow of traffic, or as Dr. Finn observed “...many of these dislikes could be seen as as different constraints on the highly prized freedom discussed above” (5). Variations on the theme of impeding the flow included “slow

driving," defined both as "driving under the speed limit" and "slower than the flow," "road hogs" (defined as drivers driving side-by-side so as to prevent passing), and "not keeping to the right" to let others pass. Sample responses to question Q21 regarding *impeding the flow* follow. A complete compilation of open responses to the survey can be found in appendix d.

Q21 *"The thing that makes me angriest about other drivers on the road is..."*

slow driving

Injury "People who *block the flow of traffic by always driving the speed limit*" (2).

Injury "People who *pass you then slow right down*" (2).

Injury "Drive too slow, hog road" (5).

Non-injury "Slow up traffic by driving side by side [diagram drawn] so faster car cannot get through" (12).

Non-injury "A road is for traffic, if you aren't in a hurry you should be aware of and facilitating of those that are" (13).

Non-injury "Slow drivers—either they don't know where they are and/or where they are going and in my opinion, [they are] serious road hazards" (18).

not keeping to the right

Respondents frequently cited drivers driving slowly, (often defined as at the speed limit), in the left lane, or otherwise not following the principle that slower traffic stays right as something that angers them.

Injury "My major complaint, though, is that many people don't realize that the slower traffic stays to the right" (3).

Injury "They don't respect other drivers, especially when it comes to driving slow in the fast lane" (3).

Non-injury "Don't pull to the right when a fast car approaches in the left lane" (28).

These statements reinforce the notion that driving should consist of a seamless, high speed, forward motion, without interference. Like "alertness," dimensions of the concept of "going with the flow" constitute a "good answer" in the context of defensive driving. But, the gist of most of the replies is that drivers who do not share their preferred conception of driving should not be on the road. Flow is not seen as an *ideal*, but rather, as an *imperative* condition.

older drivers

Elderly drivers were consistently characterized as slow and as impeding the condition of “flow.”

Injury *“Slow old farmers on the highway” (2).*

Injury *“Older (senior) drivers who drive well below the speed limit and have very slow reactions” (3).*

Non-injury *“Slow, blind senior citizens who are more dangerous on the road than any other people” (19).*

Non-injury *“Old fuckers who go 10km/h all the time and can’t see over the wheel” (23).*

Lack of courtesy

“Lack of courtesy” was also frequently cited as something that makes the respondents angry at other drivers. I would be surprised to find so many references to “courtesy” among young males from the United States as I found in this sampling of young Canadian males, reflecting what I perceive to be the greater cultural value placed on consideration for others among Canadians. It is interesting though, that while the respondents frequently refer to others’ lack of courtesy they usually rank courtesy very low when evaluating their own driving habits (specifically habits they believe keep them out of collisions). This suggests two explanations: 1) While they value “courtesy” in the driving environment they don’t view it as important to *collision avoidance*, or 2) while they value others’ courtesy toward them when they’re driving they don’t value it in their own driving with respect to others. I would suggest that their definition of “courtesy” is central to this discussion. When they point to lack of courtesy in other’s driving many qualify the statement by defining discourtesy as “slow driving” or “driving slow enough to be a hazard (23).”

Injury *“Slow and discourteous drivers (drive under limits)” (9).*

Injury *“Ignorance that other drivers have toward myself” (10).*

Non-injury *“Not courteous, not signalling, drive too slow” (18).*

Non-injury *“Too slow, no manners, rude” (22).*

Non-injury *“Lack of courtesy, paranoid of the ditch” (26).*

Non-injury *“...when you let somebody in they don’t wave!! —Slow drivers—drivers that basically form ‘lines’ across the freeways so you cannot pass them. Wouldn’t mind so much if they did it a little bit faster!!” (27).*

A quantitative survey study by T.M. Nelson, B. Evelyn, and R. Taylor involving groups of both young and elderly drivers demonstrated that the way the two groups define discourteous driving varies in a number of ways. Younger drivers tended to define discourtesy as “slow driving,” or failure to yield right-of-way (10). Older drivers defined it as fast driving punctuated by aggressive maneuvers—precisely the kind of driving that our respondents value. Both groups criticised the other for creating hazards, but were willing to identify problem driving behaviors within their own peer group, as well (12).

A qualitative study by J.P. Rothe, *The Safety of Elderly Drivers: Yesterday's Young in Today's Traffic*, provides insight into the way elderly Canadians perceive the task of driving. When describing their pet peeves or aspects of driving that make them uncomfortable they use language of the sort that follows.

“There’s too many people out there, too many *young people* buzzing around causing accidents” [woman, sixty-five to seventy-four] (281).

“Yes...I’m quite comfortable...as I said, I mainly watch out for the *youngsters* that, ah, *just put their foot down on that pedal and go regardless*, and I watch out for them” [female, seventy-five plus] (296).

“There’s *too many young people* driving too fast...they’re driving over the speed limit in here where it’s congested where they should be more careful eh?” [male, fifty-five to sixty-four] (296).

“I never speed but *I have control then*, you know.” [Female, sixty-five to seventy-four] (297).

It would be interesting to know what percentage of injury collisions involve crashes between senior citizens and young adult males as a result of *differing conceptions of the driving task*. The elderly assess traffic signals and events more slowly and sometimes incorrectly, but young males assume that traffic will “flow” as it “ought to.” Young males’ greater belief in and knowledge of the “code” of driving strongly contradicts the reality that bizarre events can and will occur. Courtesy while driving would seem to imply anticipation of others’ errors and respect for their right to be on the road, but that does not appear to be how our study cohort conceptualizes it.

Lack of attention

“Lack of attention” in other drivers was also frequently cited as a source of anger. While a generally irritating behavior from any driver, “inattention” would logically be perceived as a greater hazard by those who assume that the purpose of driving is to maintain a high rate of speed and uninterrupted flow. “Inattention” is, of course, the flip side of “alertness” as discussed in the focus

groups. Others are expected to stay alert so that one can enjoy the flow of traffic at high speed.

Injury *"Unobservant, not knowing what goes on around them, not comfortable, [or] relaxed in the driving environment" (6).*

Injury *"Very slow drivers and people not paying attention even though the latter pertains to me sometimes" (7).*

Injury *"When they drive slow. Also not paying attention to signs, lights and to what I'm doing" (7).*

Non-injury *"Don't look before turning, drive too slow" (18).*

Non-injury *"They don't look to see what other drivers are doing. They have tunnel vision. They are not courteous" (18).*

Lack of knowledge

Others' lack of knowledge about driving or the driving environment was also frequently mentioned. As in the focus groups *"knowing how to drive"* was usually defined in terms of manual driving skill, exhibiting visible confidence behind the wheel, and not hesitating.

Injury *"People who don't know how to drive and are very timid behind the wheel" (2).*

Injury *"People who can't properly drive, and don't realize it" (2).*

Injury *"Very young drivers thinking they can control their vehicles better than they can (especially in bad conditions)" (6).*

Non-injury *"They can't drive. Who gave these people a licence? Teach people how to merge, signal, speed up, and 'drive in the right lane when possible'. A signal doesn't mean people have the right to cut me off" (10).*

Non-injury *"Drivers that hesitate in making decisions before maneuvering" (11).*

Non-injury *"People that don't have common sense and who are not confident in handling a motor vehicle" (15).*

Non-injury *"People are not confident about driving. Drivers are too indecisive when on the road, and are not aware of the rules, courtesy, and how to react properly in emergencies" (16).*

One respondent in the non-injury group who reported his occupation as “commercial pilot” wrote a small essay on others’ lack of knowledge of manual driving techniques. He reported 8 demerit point on his licence.

Non-injury “Driver training should be changed to a more *skill oriented* form. If a person can follow the signs, (i.e. speed and lights) and parallel park, this will not help them in any way should an unusual situation arise. Too many times *I have seen the opposite reaction* from drivers in an emergency situation from that which should have been used. An example of this is the *locking up of brakes and freezing* at the wheel when what is needed is *slight acceleration followed by a turn to either direction to avoid collision*. By changing driver education to a more *skill oriented* form, (as cars are becoming faster and quicker) you would reduce the number of accidents on the road as those behind the wheel would understand how a vehicle *reacts in emergency situations...*” (20).

Demographic categories

Certain demographic groups were specifically singled out as not *knowing how* to drive, or as lacking driving skills, especially members of visible minorities, elderly drivers, and women

Injury “People who *don’t know how to drive*. Especially older people” (5).

Non-injury “*Elderly people—they should have driving exams every year after 60th birthday—awful drivers*” (14).

Non-injury “Also *Chinese and Pakistanis* in Alberta should be stopped more frequently to see if they didn’t *get their licence out of a Cracker Jack box!!*” (14).

Non-injury “*Old people and women who don’t know how to drive*” (27).

Non-injury “*Chinese and Pakistanis that look through the steering wheel to see where they’re going*” (28).

Non-injury “Stupid driving errors such as [not] signalling or *driving well under the speed marked*. (Generally *older people and Asians/Oriental*. This is not meant to be a prejudice statement, but rather the facts)” (28).

Women

The respondents’ comments about women seemed more significant in terms of what they didn’t say, than what they did. Questions in the survey about women were those most likely to be left unanswered or have “stupid question”

or the like written in the margin after them. Throughout this project 18-24 year old males have shown a reluctance to allow any connection to be made between their relation to women and driving. Both the reticence in the focus groups on the subject of women (most comments about women were prompted by the facilitators) and the hostile scribbling seem to imply a strong sensitivity to such questions. The public is now quite conscious of the ways in which automotive manufacturers have used the sexual appeal of women (and connotations of greater access to sexual activity provided by the car) to sell motor vehicles to young men (Marling, 9). Males in this age cohort seem well aware of this history, to resent it, and to purposefully separate any references to women from their comments on driving except to criticize their driving. This doesn't necessarily eliminate the desire to attract women as a factor in their motivations for driving in certain ways or in their preferences for specific vehicles, but it does suggest sensitivity to the topic.

This sensitivity strongly contradicts our informal survey of high school students in 1991. When answering the question "*What is your dream vehicle and why would you want to own it?*" many of the teen-aged males responded with references to attracting women and increased sexual opportunity (Strickler-Wilson, chapter 3). Comments such as "babe mobile," or "THINK OF THE BABES," imply that for young males who have just begun to drive, or are preparing to, vehicles strongly represent the possibility of enhanced opportunities for contact with the opposite sex. The few open comments of this nature on the survey to the older cohort were from males aged 19 or 20.

There are several possible reasons why 18-24 year old males avoid making connections between women and vehicles. They may have learned that driving does not provide an enhanced sex life to the extent imagined in high school, or they may now consider such attitudes juvenile or something with which they no longer want to be associated. Some may consider the linkage sexist and avoid it out of respect for themselves and women, or they may recognize that while a connection still exists between vehicle ownership and perceived measures of sexual attractiveness, they do not want to admit it or reveal vulnerability to a belief seen by others as superficial.

Motor vehicle advertising has toned down the connection between exploitative sexuality and motor vehicles considerably during the past decade. Part of this is due to the fact that women are buying vehicles for themselves in record numbers. Overt sexism in this market environment is considered taboo and bad for business. The responses and silence of our respondents may be related to this phenomenon in one way or another, but it would be difficult to say how without more information. The material we've gathered so far gives us no clues in this regard, but it strongly suggests that overt references to cars and sexuality should be downplayed in visual communications to this age group.

Perception of age discrimination

An unsolicited viewpoint that was frequently expressed by respondents in the margins or on the backs of the surveys was the perception that as a group young males are unfairly targeted for higher vehicle insurance rates.

Members of the cohort are aware that they are regarded as a high-risk group and consider the higher rates they carry to be a form of discrimination that is unjustified. A few surveys bore small “essays” on this subject suggesting high sensitivity and indignation toward the issue.

Non-injury “I feel that I’m *discriminated against* for my age when I want to insure a vehicle...” (9).

Non-injury “No [points], but *my fucking insurance is sky high*. I thought we were innocent until proven guilty. Is it not racist [discriminatory] to group us all together and call us *another fucking statistic*?” (22).

Non-injury “...*Low insurance rates to start*, but if they are the *cause of a serious accident* their insurance should be 3x of what they would pay at today’s rates....I feel I have a better viewpoint on this matter than someone who is unaware of how it feels to be *discriminated against because of AGE!!!*” (30).

Specific driver actions

A number of responses to the open question were of the sort that could have been made by drivers of any age negotiating North American roadways.

These comments tended to focus on specific driver actions, such as failure to signal or observe traffic signals, that are common annoyances and to varying degrees endanger others. These actions, of course, pose greater hazard to drivers who exceed posted speed limits or follow too closely.

Injury “People who don’t signal when changing lanes or turning.” (1).

Injury “People who don’t signal turns, those who do signal, but don’t turn.” (2).

Injury “Improper signal, braking in the curve” (5).

Non-injury “That they don’t use their turn signals, and also in a dual turning lane the driver on the inside turns into my lane!!” (16).

Non-injury “Do not dim lights at night and giving me the finger” (16).

Non-injury “People who cut you off and don’t signal” (21).

“Safer” Driving Attitudes

As in the focus groups, comments were made that indicated “safer” or more defensive attitudes on the part of some drivers. Comments of this sort were more common in the non-injury group than in the injury group.

Injury *“When they blatantly disobey traffic laws and cause a tense and undesirable driving situation” (4).*

Injury *“Many people go too fast especially if conditions are not ideal” (4).*

Non-injury *“People think that it’s o.k. to drive 10 km/h above the speed limit. All speeding should be stopped by police or limits should be increased” (13).*

Non-injury *“Careless drivers who pull in front of me without signal or follow too close” (16).*

Non-injury *“People are careless, think they are better drivers than they are. Everyone is in a hurry to get somewhere and wait” (16).*

Non-injury *“When another driver endangers my life when passing in an unsafe passing zone or follows too close behind” (16).*

g Responses to closed-ended questions from the survey

As mentioned earlier quantitative analysis of the data was focused on comparing responses from the injury group against those of the non-injury group and the number of points reported on the licence in relation to beliefs and attitudes about driving. While the differences were often not large there were discernable patterns. Overall, the injury group reported having more points on their licences than the non-injury group; the mean number of points reported by the 78 members of the injury group was 2.81 points, whereas the 220 members of the non-injury group reported a mean of 1.55 points.

In the injury group 53% reported having *no points* on the licence, whereas 70% of the non-injury group reported having *no points*. At the other end of the scale 19% of the injury group reported having *five* or more points whereas only 10% of the non-injury group reported *five* or more points, and at the highest end 10% of the injury group reported *nine or more* points as opposed to 3% of the non-injury group reporting *nine or more*. In both groups the highest number of points reported was 14.

No single response on the survey consistently predicted high numbers of demerit points, (and virtually every response was selected by at least one person reporting zero points on the licence), but as I was coding the surveys I

had the strong sense that I was able to predict before I turned the last page whether or not the respondent would report demerit points on his licence. This "intuitive" experience is not verifiable (I did not keep track of the times I guessed correctly or incorrectly), but it is consistent with characterizations from the literature that show problem driving as not related to any single factor, but rather, to clusters of factors.

Several kinds of responses in particular seemed to correlate strongly with reporting of points. Responses to the open-ended questions above such as those that stress "slow drivers," "blocking the flow," or "not knowing how to drive" appeared to correlate with higher numbers of reported demerit points. Those implying that the respondent disliked speeding, tailgating or aggression in other drivers were likely to correlate with fewer points. For some questions on the survey so few respondents chose a response that numbers of points could not be computed reliably, but a low number of responses to a question was usually telling regarding the driving values of the cohort*.

**Respondents who reported not enjoying driving or disliking speeding and aggressive driving were clearly in the minority. Of the 298 respondents only 11 reported speeding as something that made them angry about other drivers (two in the injury group and nine in the noninjury group) and only 11 reported disliking aggressive driving (one in the injury group and ten in the non injury group).*

Among the multiple choice and scale questions a fairly clear pattern emerged in which a preference for manual skill or "control" over alertness or regard for other drivers tended to correlate with higher numbers of demerit points. While numerical differences could be slight they tended to increase or decrease in predictable directions. This phenomenon was clearest in the injury group where a higher concentration of problem drivers was pitted against a smaller number of average or safer drivers. One scale question which demonstrated the relationship was Q22i, "Driving on snow and ice is a challenge I look forward to." Among those choosing "is nearly always true for me" for this question (9% chose it) the mean number of points reported across both groups was 3.41. In the injury group alone it was 5.75. In contrast, those across both groups choosing "is seldom true for me" or "is not at all true for me" reported a mean of 1.62 points (in the non-injury group alone only the mean was 1.32). The question was phrased in positive terms so there were no negative or legal implications associated with an affirmative answer, but also no pressure on the respondent to report looking forward to winter driving if in fact he didn't.

This is different from Q22o "I enjoy taking risks when I drive" which has a certain amount of societal disapproval built in through the word "risk." In the non-injury group no respondents answered "is nearly always true for me" to this risk question; in the injury group only one did. In the non-injury group 12 respondents chose the next level of response "is often true for me" (5.5% of the group) and they reported a mean of 2.17 points. In the injury group one reported "always" and two reported "often" (3.8% of the group) with a mean between them of 11.67 points. As for those reporting "is not at all true for me" to the risk question 57.7% of the non-injury group chose it for a mean of 1.21 points; and 55.5% of the injury group chose it for a mean of 2.70 points.

Ranking of skill in relation to other values

As mentioned earlier, the question asking respondents to rank strategies for avoiding collisions was central to the purpose of the survey. The ranking results are interesting in a number of ways. The most common rank order reported is shown below.

- 1 Alertness to other drivers
- 2 Good handling skills and reflexes
- 3 Following the rules of the road
- 4 Courtesy to other drivers

"Alertness" had a clear position in the ranking as being the first choice (46.3% ranked it #1) which is consistent with the discussion of alertness in the focus groups. "Skill and reflexes" was the strong number two choice (28.5% ranked it #1, and 29.5% ranked it #2). Even among those reporting no points "good handling skills and reflexes" was frequently listed as #1 or #2, demonstrating the high regard the cohort has for physical driving skills.

The ranking choice associated with the least number of points was *"following the rules of the road."* This is not surprising since demerit points are first and foremost marks of lawbreaking. Only 15% of respondents ranked "rules of the road" as #1, but they reported a mean of .80 points. Obeying traffic laws is obviously a low priority for this age group, but it appears that where they are present positive attitudes toward the law are reflected in driving behavior.

I asked Mr. Cyril Mitra, a driver education specialist for the Alberta Motor Association who teaches defensive driving courses to drivers with suspended licences, to take the survey and mark responses he would consider the "safest" choices from his experiences on the road and in the classroom. His ranking for Q30 was as follows:

- 1 Courtesy to other drivers
- 2 Alertness to other drivers
- 3 Following the rules of the road
- 4 Good handling skills and reflexes

Mr. Mitra included his definition of "courtesy" with the ranking.

"Courtesy means to me that you are alert and aware of other drivers and you've implemented some form of action because of it...A safe driver anticipates all hazards of the road and then adjusts his driving to them."

As a general rule the higher a respondent ranked "skills and handling" the greater was the likelihood that he would have points on his licence. The rank orders shown below with their point averages illustrate the pattern.

The total number of respondents choosing the order is in parentheses.

1 skills—2 alertness—3 rules—4 courtesy	= 3.34 points (32)
1 skills—2 alertness—3 courtesy—4 rules	= 3.24 points (17)
1 alertness—2 skills—3 rules—4 courtesy	= 2.53 points (36)
1 courtesy—2 skills—3 alertness—4 rules	= 2.33 points (3)
1 alertness—2 rules—3 courtesy—4 skills	= 1.53 points (15)
1 rules—2 alertness—3 courtesy—4 skills	= .42 points (12)

Interestingly, the ranking response associated with the highest number of points in isolation was *"courtesy toward other drivers."* While *"courtesy"* was clearly the minority choice (only 6.4% of respondents ranked it #1), those ranking it #1 reported a mean of 2.58 points. This higher number of points may be associated with the alternative definition of courtesy that emerged in responses to the open question. Several of respondents defining *"courtesy"* as *"staying out of my way"* reported points as high as 12 or 13. This alternate definition may also be related to the rural Alberta practice of driving on the shoulder to let vehicles pass in *no passing* zones. The values are shown below.

For those ranking *"courtesy"* #1 the mean was 2.58 points (6.4% of the sample).

For those ranking *"skills"* #1 the mean was 2.48 (28.5% of the sample).

For those ranking *"alertness"* #1 the mean was 1.80 points (46.3% of the sample).

For those ranking *"rules"* #1 the mean was .80 points (6.4% of the sample).

"I also cross-referenced three "safer" responses to the three questions. Of the seven respondents across both groups who ranked "skill and handling" as #4, and answered "I respect other drivers rights-of-way" for Q23, and "leaves enough room for error between his vehicle and other vehicles on the road" for Q26, the mean number of points reported was .00.

Respondents who ranked *"good handling skills and reflexes"* as most important for avoiding collisions on the ranking question were not necessarily likely to also choose *"skill and handling"* on other questions. 85 of the 298 respondents to the survey (28.5%) marked *"good handling skills and reflexes"* as #1 for the ranking question, but of that eighty-five only 38 also marked *"I have good reflexes and driving skill"* in response to Q23 [*"When I'm driving and have friends in the car its most important to me that they think"*], and only 44 chose *"is skilled and confident in handling the vehicle"* for Q26 [*"A good driver is someone who..."*]. Only 21 respondents chose all three *"skill and handling"* responses (with a mean of 2.48 points*). However, slightly more selected *"skill and handling"* responses as answers to Q23 and Q26 than for the ranking question, (32% and 34% as opposed to 28.5%). What this suggests is that, overall, while a majority of respondents selected a *"skill and handling"* response for at least one of the three questions, it was not always the same people and they were not necessarily choosing the responses for the same reasons.

A review of the three questions separately showed that respondents choosing *"skill and handling"* often reported a higher numbers of points on average than those making other choices. For instance, in the non-injury group those

marking *"skill and handling"* as #1 for the ranking question reported a mean of 1.71 points as against .98 among those ranking *"skill and handling"* #4. In the injury group those ranking *"skill and handling"* #1 showed a mean of 5.00 points as against 1.79 for those ranking it #4.

For Q26 [*"A good driver is someone who..."*] those in the non-injury group who chose *"is skilled and confident in handling the vehicle"* reported a mean of 1.51 points whereas those choosing *"stays alert to the driving situation"* reported a mean of 1.84 and those choosing *"leaves enough room for error between his vehicle and other vehicles on the road"* reported a mean of .94 points. In the injury group those choosing *"skilled and confident"* reported a mean of 3.44 points whereas those choosing *"stays alert to the driving situation"* reported a mean of 2.76 and those choosing *"room for error"* reported 2.42.

For Q23 [*"When I'm driving and have friends in the car it's most important to me that they think"*] *"skill and handling"* was not the highest point choice. In the non-injury group those responding *"I have good reflexes and driving skill"* reported a mean of 1.59 points whereas those choosing *"I know how to get where I'm going"* reported 1.60 and those choosing *"I respect other drivers rights of way"* reported 1.20 points. Only two respondents chose *"I'm not afraid of other drivers,"* but between them they reported a mean of 8.00 points. The breakdown for Q23 was similar for the injury group. Those choosing *"I have good reflexes and driving skill"* reported a mean of 2.00 points whereas those choosing *"I know how to get where I'm going"* reported 3.32. Those choosing *"I respect other drivers rights of way"* reported 2.67 points, and the three respondents who chose *"I'm not afraid of other drivers"* reported a mean of 4.00. It's interesting that for both groups *"I know how to get where I'm going"* pulled higher point averages than *"skill and handling,"* but the choice can be understood as related to the social imperative for males to appear calm and *"in control"* while driving as in other activities. It also pulled the largest percentage of choices—39% versus 32% for *"skill and handling"* and 25% for *"rights of way."* It is not surprising that the few respondents who chose *"I'm not afraid of other drivers"* should have collectively high numbers of points given that the response seems consistent with the emotional profile of a problem driver, although five respondents is too few to average confidently.

Automotive culture

Several questions were designed to indicate the respondent's interest in or involvement with automotive culture. These included whether or not the respondent reported reading automotive magazines monthly, the age at which the respondent reported learning to drive, how the respondent reported learning to drive and the number of vehicles owned.

automotive magazines

Under the media use section we made note of those who reported reading automotive magazines monthly as a possible sign of greater involvement in automotive culture. In the injury group 15% of the respondents reported reading automotive magazines once a month and these reported a mean of 3.06 points on their licences, somewhat higher than the 2.81 group mean. In the non-injury group 9.5% reported reading automotive magazines once a month and reported a mean of 2.45 points on their licences, somewhat higher than the group mean of 1.55.

age at which they learned to drive

The purpose of the question "*how old were you when you first started learning to drive?*" was to see whether those claiming having learned to drive before age 15 were represented in greater numbers in the injury group than in the non-injury group. The assumption was that those who learned to drive earlier placed a higher value on "automotive culture" than those waiting until the age of licensure.

Having learned to drive while quite young was expressed by the participants in Focus Group 1 as a sign of greater knowledge, competence, and driving ability. However, by learning to drive informally and prior to contact with the official driving guide (which is usually only encountered when one pursues licensure) they may have missed exposure to ideas about avoiding potential hazards that predispose them to collisions (Rothe, 1987, 147). Early driving is also more likely to have occurred under the observation of a relative rather than with a driving school instructor with a greater emphasis on manual skills and vernacular rules of the road than on defensive driving, "traffic psychology," "physics," or actual traffic law.

The survey showed that, as a group, members of the injury group tended to report learning to drive earlier than those in the non-injury group. Forty-five percent of the injury group reported having learned to drive by age 13 or younger as opposed to 34% in the non-injury group. However, by age 14 the numbers evened out with 72% if the injury group reporting having learned to drive and 74% of the non-injury group. By age 16, 92% of the non-injury group reported having learned to drive as against 89% of the injury group. The data shows slightly more later learners in the injury group.

The correlation between age learned to drive and the number of demerit points is somewhat similar for both groups although the curves are irregular. Generally speaking, those who learned to drive after age 15 tended to report fewer points than those learning earlier. In both groups those who reported learning to drive at age 13 had the greatest number of points with those learning at 15 reporting the fewest number of points in the injury group and those learning at age 14 reporting the fewest in the non-injury group.

As with some other questions on the survey, having a smaller number of respondents in a category affected the number of points proportionally, but looking at the curves in terms of overall pattern it would seem that those learning to drive at ages 14 or 15 (the majority in the non-injury group) are safer drivers than those learning earlier, possibly as a result of contact with driver education resources or because they may come from more conventional families that place greater emphasis on “doing things on schedule” or that exert more control over their children’s activities. It would seem that age 13 is a bad year for young males to have their first driving experiences. The age scale and points are shown below.

Injury group

<i>Age learned to drive</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Number of Respondents</i>
<age 13	2.85	0	13	27
age 13	7.25	0	14	8
age 14 or 15	2.04	0	13	26
>age 15	1.80	0	6	17

Non-injury group

<i>Age learned to drive</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Number of Respondents</i>
<age 13	1.86	0	14	59
age 13	2.47	0	11	15
age 14 or 15	1.30	0	11	107
> age 15	1.41	0	13	39

how they learned to drive

A greater percentage of the members of the non-injury group reported having had some kind of driver training course than did members of the injury group—54% in the non-injury group as against 45% in the injury group. However, there are no clear patterns with respect to how the respondents learned to drive and the number of points they reported on the licence. Roughly 10% of the respondents in both groups reported having learned to drive through a driver education course in high school, and these respondents tended to report lower than average numbers of points. Interestingly, the respondents reporting the highest number of points in the non-injury group were those who reported having taken lessons through a private driving school. In the injury group the highest point averages were among those taught by a friend or relative. A slightly higher percentage of the injury group reported being “essentially self-taught” (20% as against 15% in the non-injury group). The point averages are shown below.

<i>Injury group</i>				
<i>How learned to drive</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Percent</i>
High school driver ed	1.43	0	5	9%
Private driving school	2.79	0	12	36%
Friend or relative	3.28	0	14	32%
Essentially self taught	3.06	0	11	20%
<i>Non-injury group</i>				
<i>How learned to drive</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Percent</i>
High school driver ed	1.29	0	9	11%
Private driving school	1.97	0	13	43%
Friend or relative	1.16	0	14	29%
Essentially self taught	1.48	0	13	15%

number of vehicles owned

Like many of the other questions, "how many vehicles have you yourself owned?" showed a clearer pattern in the injury group. In the injury group the number of points on the licence gradually rose with the number of vehicles reported owned. In the non-injury group it would be difficult to declare a pattern. Generally the injury group reported having owned more cars than the non-injury group. While only two members of the injury group report owning no vehicles, 16% of the non-injury group reported having owned *none*. And while 22% of the injury group reported having owned six or more vehicles, only 11% of the non-injury group reported having owned six or more.

<i>Injury group</i>				
<i>Number of vehicles owned</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Percent</i>
One or fewer	2.31	0	14	21%
Two or three	2.35	0	13	29%
Four or five	3.00	0	14	28%
Six or more	3.65	0	10	22%
<i>Non-injury group</i>				
<i>Number of vehicles owned</i>	<i>Mean # of points</i>	<i>Min.</i>	<i>Max.</i>	<i>Percent</i>
One or fewer	1.11	0	13	44%
Two or three	2.10	0	14	30%
Four or five	1.34	0	8	15%
Six or more	2.09	0	13	11%

Demographics

Generally the demographic profiles of the two groups were as might be expected based on existing traffic safety literature. A greater percentage of the non-injury group reported being full-time students whereas a greater percentage of the injury group reported working full-time. A greater percentage of the non-injury group members had attended university, but proportionally more of the injury group reported having college diplomas. The non-injury group reported a wider range of employment categories with the largest group working in service or retail areas. The injury group showed more members working in mechanical or technical areas, construction, the trades or as heavy equipment operators. Household income is probably an unpredictable indicator for this age group since students living at home are mixed with those supporting themselves. However, 37% of the injury group reported a household income of less than \$19,000 whereas only 30% of the non-injury group did. Fifteen% of the injury group reported themselves as temporarily unemployed, whereas 9% of the non-injury group reported unemployment. A slightly higher percentage of the injury group reported being married.

living with a member of the opposite sex

A factor that became apparent while coding the surveys was that a greater percentage (24%) of the members of the injury group described themselves as "living with someone I have an intimate relationship with" than did those in the non-injury group (13%). While a rather charming phenomenon was at work in that a number of the respondents who reported being married also checked this box rather than describing themselves as "head of household," (some scribbled remarks about sharing household chores equally), I will assume that most of the respondents who described themselves as single and who also checked this box were living with a romantic partner outside of marriage. Some percentage of those marking the question this way may be gay. However, the fact that a greater percentage of members in the injury group described their living situation this way suggests a potential connection between features of the problem driver profile such as "less willing to defer gratification," "looser ties to parents," "less respect for authority," and "expediency." Living together outside of marriage is becoming a more normative behavior in North America, but in Canada is still concentrated among less conservative individuals. It would be difficult to draw any firm conclusions other than that it may be an item to explore in future studies.

In the injury group those who described themselves as living with an intimate partner reported a mean of 3.68 demerit points whereas those not describing their households this way reported a mean of 2.53. On the other hand, in the non-injury group those living with an intimate partner reported a mean of 1.21 points as opposed to a mean of 1.60 among those not describing their households this way.

i Interpreting the survey responses

Similar answers to most questions

Equally important as the finding that some responses to the survey seem to correlate positively with injury collision or demerit points is the observation that, collectively, many of the answers given by the non-injury group differ little from those of the injury group. What this suggests is the pervasiveness of certain shared beliefs and values about driving across the 18-24 year old male age group. I would suggest from reviewing the survey material that *the perception of the driving task as a smooth, uninterrupted, high speed forward motion* is a normative concept for young males in Alberta, as is the value of being able to demonstrate a high degree of *control* over the vehicle.

j Beliefs about driving: “safer” vs. “collision-vulnerable” belief systems

The survey responses suggest two primary characteristics that may differentiate a relatively *safe driver* (we are all only “relatively” safe when driving) from a *collision-vulnerable driver*. I would identify these two factors as follows:

- 1 The level of *emotional involvement* of the driver with respect to negotiating ordinary traffic situations (a component of “attitude”), especially *the extent to which the driver believes driving to be an expression of identity or competence*, affects collision involvement.
- 2 The set of *assumptions or beliefs the driver holds about the driving environment* and also about the correct *actions to take to remedy potentially dangerous situations* affect collision involvement.

A “safer” emotional response to the *task* of driving would include a high level of recognition of potential dangers while driving coupled with a low level of identity investment in the outcome of particular negotiations, i.e....who ends up in front and who behind. (A negotiation need not involve another driver; it can simply involve the relation of the vehicle to the road surface or to a traffic control device.)

A “collision-vulnerable” response would combine a *high level of identity involvement in traffic negotiation* with a set of beliefs about how driving *ought to be negotiated* that may not correspond to the way events really occur. Especially for this cohort, beliefs about the *primacy of high speed traffic flow* and the *primacy of vehicle handling* as a means of avoiding collision involvement may be especially problematic.

No one disputes that a smooth flow of traffic at high speed is an ideal transportation condition, and many roadways are designed specifically to facilitate such travel. Even city thoroughfares are increasingly designed to accommodate smoother traffic flow at higher volumes and speeds. However, a “safer” driver adjusts his or her own driving to accommodate conditions that may limit the ability to travel safely in this ideal state—heavier traffic, wet surfaces, slower vehicles, dusk or darkness—without emotional investment in the adjustment. The “safer” driver is able to do this because driving is an activity of low importance to the conception of the self (i.e. it is not important to believe that one can handle a vehicle skillfully regardless of road and traffic conditions), and because the belief that *traffic ought to flow smoothly* at high speed is *less strongly held* than the belief that *driving should be altered* if necessary to prevent mishap.

For the collision-vulnerable driver the belief that *traffic should flow smoothly at high speed* is *more strongly held* than the belief that *driving should be adjusted* to anticipate or prevent mishap, and the ability or inability to act on this belief engages the emotions.

a Attitude as a predictor of behavior

A central tenet of this thesis is that *correctly designed and implemented visual communications have the power to change rates of incidence of certain behaviors among members of the public*. This implies that public communications have the power to change peoples' *beliefs and attitudes* about a subject and that such change can lead to *behavioral* change.

The premise that attitudes and behaviors are causally linked is not universally held among social and psychological researchers since many attempts to measure the relationship have been inconclusive. Common sense suggests that peoples' *thoughts* about a subject inform their *attitudes and behaviors* toward it, but empirical correlations have been historically weak. Psychologists Kreitler and Kreitler found in 1976 that only 30 percent of the 117 "better studies" showed positive correlations between attitudes and behaviors (in McGuire, 252). Communication researchers, however, take a more optimistic view of the relationship since their studies often measure longer term effects as will be discussed later in this paper. A researcher's position on the question is usually reflective of his or her academic and methodological orientations toward it.

Kreitler and Kreitler's use of the term "better studies" points to the methodological difficulty of measuring something as elusive as an attitude. Empirical efforts to measure attitudes are generally hampered by a lack of certainty that what is being claimed to be measured is, in fact, what is measured since *self-reports* of attitudes do not necessarily reflect actual attitudes held. Much work in the area has focused on eliminating methodological uncertainty in this regard and generally involves elaborate cross-measures to ensure validity and reliability across respondents' expressions and choices. Researcher bias and assumptions can also influence outcomes (Kirk and Miller, 30).

Many of the studies attempting to link cognition, attitudes, and behavior have been embedded in research into human ideological constructs with the conclusion that excepting certain types of individuals such as "analytical genius types", particularly "morally aware" individuals, or ideologues, most people are highly nonideological (McGuire, 248). In other words, they do not structure information they receive according to logical or consistent sets of ideas, and their behaviors may be equally "ideologically inconsistent."

Findings from studies of attitudes reveal eight kinds of evidence that suggest that most people are not ideological, (or logically organized) in the attitudes they hold. First, people are usually unable to give precise reasons for attitudes they express and may be largely ignorant of important facts regarding objects or issues toward which they hold attitudes. Second, they will frequently report having "no opinion" on surveys regarding matters that would seem to have great importance to them. Thirdly, people's attitudes tend to change in highly

inconsistent ways over time. Fourthly, research on opinion surveys shows that people's selections can change radically with insignificant changes in wording or reordering of the choices. A fifth observation is that there is low correspondence between what people may know about a subject and how they "feel" about it, as when they prefer one political candidate, but agree on most points with the opponent. Sixth, there is often little ideological correspondence across the multiple attitudes expressed by a single individual. Seventh, people frequently express attitudes that would appear to conflict with their own self- or class interests, and eighth, people's general positions on a topic often contradict their specific opinions, such as when they favor capital punishment in general, but oppose it in most specific instances (248-249).

While these studies have dealt largely with public opinion such descriptions of peoples attitudinal patterns are important when considering design of a visual communication campaign because information must be presented to people in ways they can make use of, and ideally, act on. Perhaps more than anything studies of the sort mentioned above highlight differences between ways in which people of average education and experience structure and respond to information versus the thinking patterns of academic researchers specifically trained in information storage, retrieval, and analysis.

Despite the controversy, I have chosen from models that focus on belief systems as keys to behavior and behavioral change. At a certain point investigations into belief systems collide with communication research and I have chosen this juncture for guidance in designing our campaign. Since the intent of the campaign, if implemented, would be to test (via measurable events) whether or not public communications can influence public behavior in positive ways, it can be said that we have entered the fray.

b Definition of beliefs, attitudes and values

The terms "belief," "attitude," and "value" are used almost interchangeably in everyday speech but they are most usefully conceived as distinct entities within a person's cognitive system. Various definitions exist, but I will follow the definitions of Milton Rokeach (1968) since many of his research questions lead in directions that are appropriate for communications research, specifically regarding problems of attitude change. According to Rokeach, beliefs, attitudes and values can be defined as follows.

Beliefs

A belief is any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase "I believe that...." A belief involves existential, evaluative, or prescriptive/exhortatory positions toward objects (112).

**There are other important conceptualizations of attitude. One of the most widely accepted for empirical studies focuses on observable aspects of attitudes and defines them as "responses that locate 'objects of thought' on 'dimensions of judgement'". A more conceptual definition describes attitude as "a mediating 'process' grouping a set of 'objects of thought' in a conceptual category that evokes a significant 'pattern of responses'" (McGuire, 239).*

Attitudes

An attitude is a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner*. Virtually all theorists agree that an attitude is not a basic, irreducible element of the personality, but rather a cluster of two or more related elements (112).

Values

A value is a disposition of a person, like an attitude, but more basic than an attitude, often underlying specific attitudes. A value is a type of belief, centrally located in one's belief system, about how one ought or ought not to behave, and about end-states of existence worth or not worth attaining. Values are ideals; they are not tied to specific objects or situations. An adult may have hundreds of thousands of beliefs and attitudes but only dozens of values (124).

Rokeach also defines the related concept of "opinion."

Opinion

A public statement of some belief, attitude, or value that may or may not reflect a person's real attitude and that can never be taken at face value (124).

Rokeach emphasizes that beliefs cannot be simply recorded or observed, but must be *inferred* from the sum of a person's words and actions. People's verbal reports of their beliefs are not dependable since many situations provide motivations for deception and because at times people may be genuinely unable to articulate what they believe (2).

The *belief system* as conceived by Rokeach is a hierarchical and integrated system of basic, irreducible elements (beliefs) and clusters of beliefs (attitudes) that are organized or acquire importance in relation to one's values. Rokeach holds that *change to any part of the system will affect related parts of the system and will result in behavioral change*. He also emphasizes that *belief systems are organized, but not necessarily logical* (2).

A belief can be defined as a basic, irreducible element, but not all beliefs are equally important to the individual. Rokeach conceives the fundamental organization of beliefs to exist on a central/peripheral axis with beliefs related to a person's self concept being more central, and those less related to the self as peripheral. Beliefs that are more functionally connected with other beliefs (or upon which other beliefs depend) will also be more central to the belief system. Rokeach defines four kinds of beliefs that can be located on the central/peripheral axis (6).

Existential beliefs

Beliefs directly concerning one's identity or existence in the physical or social world are more central in importance.

Shared beliefs about identity and existence

Existential beliefs that are shared with others are more central in importance.

Derived beliefs

Beliefs learned not by direct encounter with the object, but indirectly from other reference persons are not as central.

Beliefs concerning matters of taste

Beliefs representing arbitrary matters of taste are regarded as such by those that hold them. Matters of taste have fewer connections to other beliefs and are, therefore, less central.

Rokeach further defines several kinds of beliefs within these categories (7).

Type A: Primitive beliefs

Beliefs that are most central to the system are those that are learned by direct encounter with the object of belief and reinforced by unanimous social consensus among all one's reference persons and groups. Type A beliefs are so taken for granted that they usually do not come into question in an ordinary life, e.g. "I believe this is a chair," or "I believe this is my mother." Just as a child expects a table to remain a table, so the child expects people to remain more or less constant. Violation of primitive beliefs supported by unanimous consensus may lead to serious disruption of beliefs about self-constancy and self-identity.

Type B: Primitive beliefs

A second type of "incontrovertible" belief (one not open to question) that concerns one's existence or self-identity is learned by direct encounter with the object of belief, but its maintenance does not depend on being shared with others and may be impervious to persuasion or argument by others, such as "I believe, but no one else could know...," "I believe I'm intelligent," "I believe my son is a good boy," or "I believe I'm unlovable."

Type C: Authority beliefs

Type C authority beliefs develop out of Type A beliefs and remain in a functional relationship with them. As children come into contact with others they learn that their primitive beliefs are not universally shared. When type A or B beliefs are called into question a child is forced to develop a conception of positive and negative authority.

Authority beliefs are non-primitive beliefs based on a person's conception of which authority groups are to be trusted.

Type D: Derived beliefs

Derived beliefs are derived from the credibility of a given authority. Type D beliefs are controvertible because it is recognized that other authorities hold different beliefs. Derived beliefs are acquired second-hand through identification with authority rather than by direct encounter with the object of belief. Change of belief with respect to an authority can lead to change in many other beliefs derived from authority in general.

Type E: Inconsequential beliefs

Many beliefs in the belief system represent arbitrary matters of taste. They may be firmly or weakly held, but are generally considered by the believer to be inconsequential. Inconsequential beliefs have few connections with other beliefs in the system and can be changed without affecting beliefs involving self-esteem or identity.

c Several models of attitudes as determinants of behavior

Since beliefs tend to take on importance for influencing behaviors primarily within the context of attitudes (or clusters of beliefs organized around an object or situation) most research linking belief systems and behavior has focused on attitudes. Rokeach conceives attitudes as having a primarily "value-expressive" function as defined originally by D. Katz (in Rokeach, 1930). The "value-expressive" function is essentially *the satisfaction that a person derives from expressing attitudes appropriate to his or her values and self concept*. Katz identified three other functions of attitudes defined as follows:

Instrumental or utilitarian functions:

Attitudes serve practical needs (as might be appropriate to the behaviorist conception of human motivation).

Ego-defensive functions:

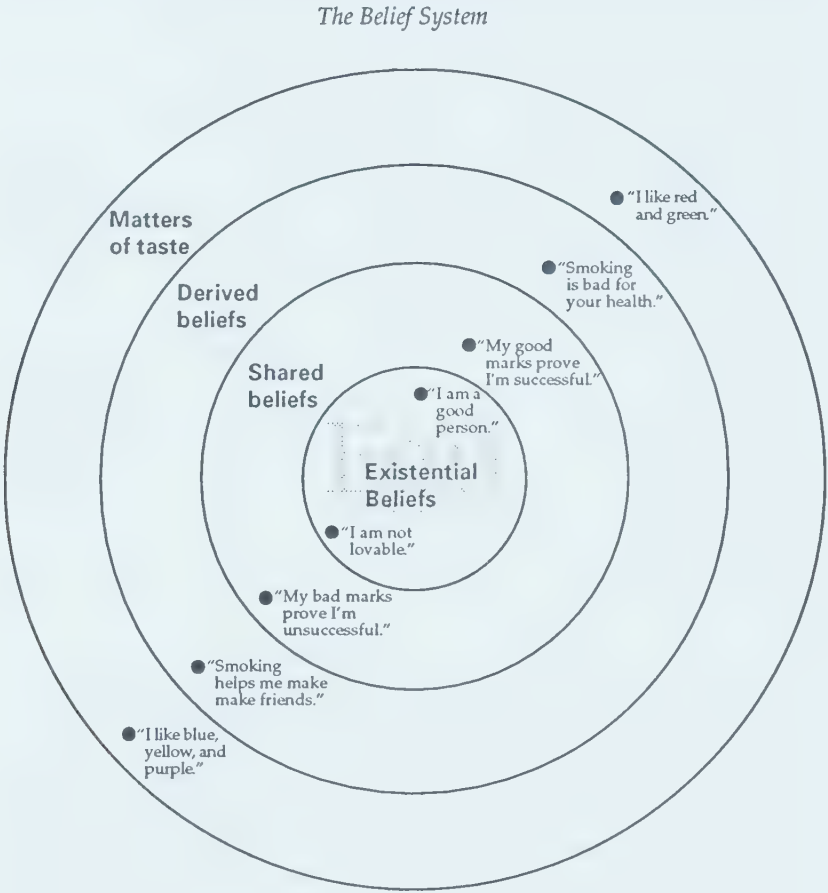
Attitudes enable a person to protect himself or herself from acknowledging basic truths about the self (as might be the concern of Freudian psychologists).

Knowledge functions:

Attitudes enable a person to ascribe meaning and consistency to phenomena when structuring his or her cognitive "universe" (as might be appropriate to a constructionist view of the person).

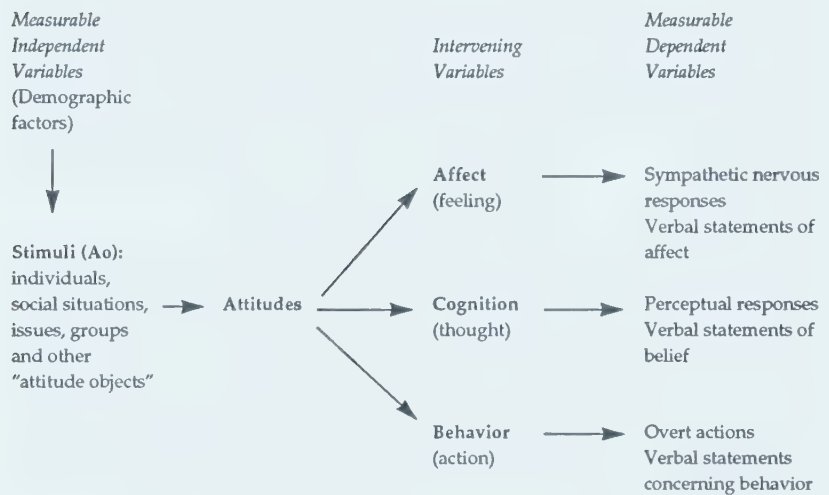
**We know that self-esteem, or more inclusively the "self-concept", plays a role in injury epidemiology. In this paper we approach self-esteem from the position that self-concept can be defined as the set of beliefs one holds about the self.*

Rokeach considers these other three functions of attitudes to be subsets of the self-realizing function—whether utilitarian, ego-defensive, or knowledge serving, *attitudes serve self-esteem** (131). The belief system as described by Rokeach could be diagrammed in a simplified cross-section as shown below:



A conventional model of the relationship between attitudes and behaviors identifies behavior as one component of the attitudinal response. The *Three Component View of Attitude* developed by Rosenberg, Hoveland and others in the late fifties is diagrammed below (in Azjen and Fishbein, 1980). The model suggests that all possible responses to a stimulus are mediated by attitude.

The Three Component View of Attitude



This three-component model implies that any measure of “attitude toward the object” should measure all three response classes since measuring only one or two will provide an incomplete understanding of the attitude. (Likert and semantic differential scales are criticized if used in isolation on the grounds that they only measure the affective response, but not the cognitive or behavioral dimensions of attitude, McGuire, 242). The three component model initially supported “consistency” theories that people will strive to maintain consistency between the affective, cognitive, and behavioral functions of the belief system. However, consistency theories are contradicted by studies that reveal non-ideological patterns in people’s belief systems.

In 1968 Rokeach suggested that attitudes could not be measured or understood in terms of a simple response toward the “attitude object” since objects are always *encountered within unique situations* (i.e. church, classroom, peer group) toward which attitudes are also held—or the “attitude toward the situation.” Rokeach suggests that attitudes should be measured by taking into account both the “attitude toward the object” (Ao) and the “attitude toward the situation”(As) since many attitudes expressed in experimental situations may be more reflective of the respondent’s attitude toward the experiment than toward the object. A person can hold an attitude privately, but behave

publicly in a way that is highly inconsistent with the attitude because social pressures (As) may override the (Ao) "attitude toward object" (1968, 147).

Rokeach was originally a proponent of "consistency theory," but revised his conception of attitudinal and behavioral change as evidence against consistency mounted in the early seventies. Consistency theory was compatible with theories of the personality that emphasized stability of traits over time, but Rokeach conceived of the belief system as a dynamic process related to the self-concept. His revised assessment was that change within the belief system or to overt behaviors is not motivated by a person's need to maintain a state of internal consistency, but rather by the need to maintain or enhance self-esteem, especially by increasing perception of the self as either *competent* or *moral*, two motives seen as central to self-esteem (Ball-Rokeach and Rokeach, 20, 1984).

Rokeach considers maintaining and enhancing self-esteem to be two different processes. *Maintaining* self-esteem involves repeating, "settling for," or reminiscing about past accomplishments in order to maintain an existing, "status quo" self-image. *Enhancing* self-esteem involves the satisfaction derived from modifying beliefs or actions to enhance self-image. Maintenance of self-esteem is characteristic of a person seeking balance; enhancing self-esteem is characteristic of a person seeking growth. He suggests that people will work to *maintain* self-esteem when they feel in danger of losing it, but will *seek to increase self-esteem whenever they can* (21). In this context one's level of self-esteem is a combination of both self-conception (processes underlying attitude) and self-presentation (processes underlying behavior) and derives not only from how one sees oneself, but from how others respond to one as well.

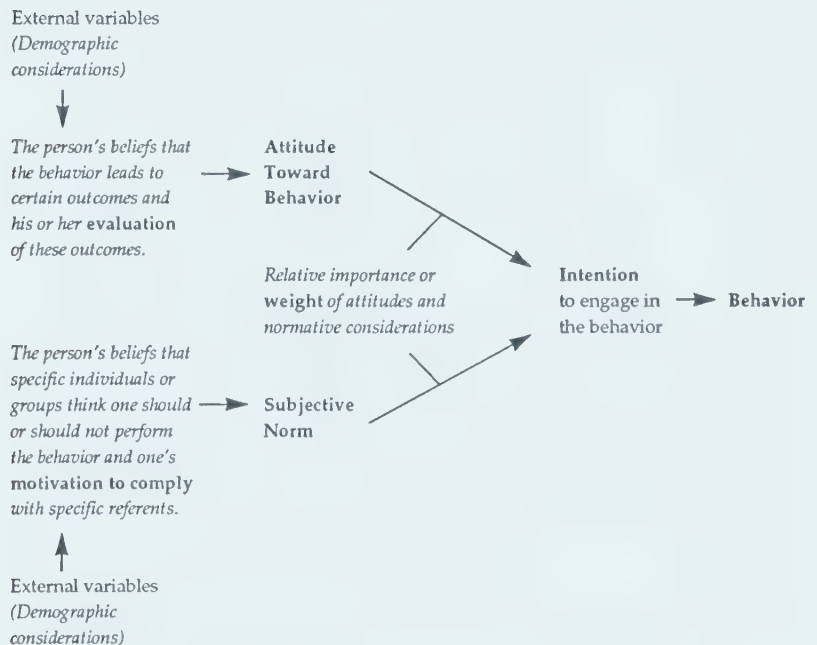
Rokeach suggests that a person will be *willing to undergo change* to attitudes or behaviors if doing so promises to enhance the self-perception or the perception of others that one is *competent* (skilled in carrying out roles or tasks) or *moral* (tending to choose right over wrong or helping to protect and love others as opposed to harming, injuring, or exploiting). Most of the societal expectations by which we evaluate ourselves can be classified as either demands for competence or for morality and orientations toward one or the other will be driven by values. Rokeach emphasizes that any *change to attitudes or behaviors toward a particular object or situation will result in a restructuring of the belief system* as it relates to that part of the system.

A related model by Azjen and Fishbein (1980) places a primary emphasis on behaviors rather than attitudes. Azjen and Fishbein hold that a person's attitude toward an object has very little influence on actual behavior, but that the person's "attitude toward the behavior" is the primary determinant of behavior. For example they suggest that an employer's attitude toward a particular ethnic group has virtually nothing to do with the decision to hire members of that group—rather the employer's attitude toward "hiring"

members of the group ("attitude toward behavior" or "situation") determines whether or not they will be hired.

The model originally developed by Fishbein, "*The Theory of Reasoned Action*," proposes that the best predictor of whether or not a person will engage in a behavior is whether the person *intends* to engage in it, and that intent is determined by two forces: the *attitude toward the behavior*, and the *social expectations* of others that one will engage in it (or the "*subjective norm*"). According to the theory a person's "attitude toward the behavior" may differ from the "subjective norm" such that the relative importance of one over the other will determine actual behavior. The theory suggests that behavior can be predicted if the *weight* of both the attitude toward the behavior and the subjective norm are known to the researcher. The model can be diagrammed as shown below (8):

The Theory of Reasoned Action (Fishbein)



Azjen and Fishbein view *attitudes* as a function of beliefs. For instance, if a person *believes* that mostly favorable outcomes will result from a behavior, it can be said that the person has a "favorable attitude" toward it and *is likely to engage in the behavior*. If the person *believes* that mostly negative outcomes will result from the behavior, then the person can be said to have a "negative attitude" toward it and *is unlikely to engage in it*. Beliefs regarding other people's evaluation of the behavior are called "normative beliefs."

The Rokeach and Fishbein conceptualizations of the influence of attitudes on behavior are not necessarily contradictory and can be viewed in terms of one enriching the other. The utility of either model depends to a certain extent upon what is being measured—values, behaviors, or both. Rokeach approaches the problem with an emphasis on cognition and a conception of the person as motivated by ego-preservation and enhancement. Azjen and Fishbein work from a more behaviorist model with an emphasis on the utilitarian person. I conceive human behavior as both ethical and utilitarian (with ethical judgement being culturally relative) and the *weight* of either ethical or utilitarian motives for behavior in a given situation being dependent on environmental influences and the personality of the individual.

d Implications for this study

At the core of Fishbein's *Theory of Reasoned Action* is the proposition that people do not act primarily on the basis of unconscious motives or desires. Rather, they make decisions about behavior based on the information that they have available to them at the time—"people consider the implications of their actions and reason about them before they engage in most behaviors" (5). This doesn't mean that decisions about actions will necessarily be rational in the context of *all* information available about the behavior, but will make sense to the person making the decision in the context of what the person knows, believes, and *believes influential others believe* at a given point in time.

This conception of behavior strongly supports the data collected in the British Columbia study of teenaged drivers and our own focus group and survey data. The teenagers in British Columbia reported that they drove the way they did because others *expected* them to drive that way and because they had been taught to drive that way. Our respondents explained their driving and their collisions in terms of common expectations of how one *should* drive and on calculations of what would happen in a given situation. They attributed the failure of their calculations to the errors of other drivers, rather than on flawed beliefs or information.

The model also accounts for the different driving behaviors of different individuals. The dictum that "people drive as they live" has circulated in traffic safety circles for years, but is often used in disparaging or dismissive contexts. Conceiving of behavior as *reasoned*, although not always logical or informed by good information, is a first step toward moving beyond class and character indictments of collision-involved drivers and toward constructive intervention.

Applying the *Theory of Reasoned Action* to traffic safety suggests that individuals who place greater weight on their *beliefs regarding the risk factors*

e Notes on attitude change research

The two models for attitudinal and behavioral change described above are two choices made from an enormous universe. As noted by McGuire in his review of research into "Attitudes and Attitude Change" in the *Handbook of Social Psychology* (1985) "over a thousand new studies [on attitude change] are accumulating each year (259)." Mastering that body of work is outside the scope of this paper.

McGuire observes that researchers studying attitude or behavioral change tend to choose from among competing and inherently "partial" views of human nature in order to focus on one phenomenon in enough detail to measure it. He developed a matrix for classifying various theories into four quadrants based on whether they conceive of the person as motivated by a need for stability or a need for growth, as proactive or reactive with respect to external stimuli, as primarily governed by cognitive or emotional needs, and as either internally focused or focused on the responses of others. McGuire observes that any conceptual representation of human motivations is, of necessity, an oversimplification and the sixteen theoretical orientations are, therefore, best understood as complementary but incomplete views of the whole.

I have sketched the McGuire matrix on the following page and included excerpts from his text in each cell, along with (very) short lists of well-known proponents from each camp. As I mentioned earlier my own choices for models of human motivation have come from a preference for a conception of the person as motivated by both utilitarian and ethical goals serving the self-concept. I conceive different individuals as having greater or lesser orientations toward utilitarian or ethical goals depending on personal resources, early environment, disposition and differing cultural definitions of competence and morality in different situations. I also conceive people as making decisions based on the information they have available at the time, capable of change and growth, with greater or lesser orientations to competence and morality at different stages during a life. I tend to reject conceptions of people as button-pushing, need-driven automatons, but recognize that unconscious needs do play a role in human behavior and acknowledge the sources of such conceptualizations.

involved in driving will modify their driving to minimize the possibility of collision. Individuals who place greater importance on *the beliefs of others* about driving (or who expect favorable social outcomes to result from conforming to others' definitions of competent driving) will drive in a manner that reflects these social expectations rather than more weakly held perceptions of risk.

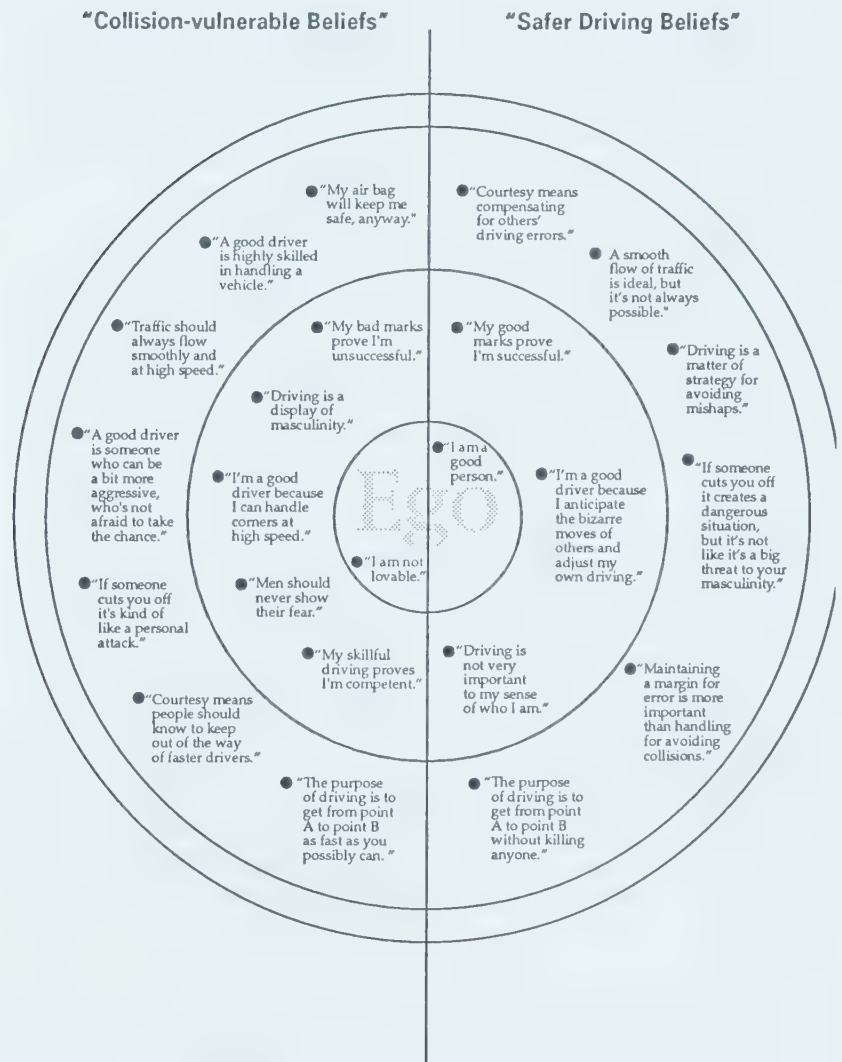
The Rokeach conception of the belief system contributes to the Fishbein model an explanation of how beliefs are arranged in the belief system and why certain beliefs are more strongly or weakly held by different individuals. The more closely a belief is associated with *one's sense of self*, and the more tightly it is *integrated with other beliefs centrally held*, the more importance it will have to the individual and the more *weight* it will have in decision-making. For instance, the belief that driving provides an opportunity to display personal *competence* has traditionally been weakly held by most women. However, the belief has been strongly held among certain groups of men (those men more heavily involved in automotive culture) and generally held by men to a greater degree than among women, although women are increasingly adopting driving behaviors similar to men's with increasing rates of casualty.

Among 18-24 year old males the desire to appear competent while driving seems to outweigh the desire to appear moral, but this is not surprising since most representations of driving in our culture do not frame it as a fundamentally moral issue (just as the majority of representations of guns are not framed in the context of responsibility). However, respondents' repeated references to "courtesy" imply that they do conceive a moral component to driving even though they place a higher value on other's courtesy toward them than they do on their courtesy toward others.

Interestingly, respondents to the survey with the highest numbers of demerits were among those most likely to refer to "lack of courtesy" in their complaints about other drivers. A comment such as "those dudes that are too cool to let in a driver who is stuck when a lane ends" [12 demerit points], (29), suggest that the driver perceive actions such as "being cut off" as a personal affront. A person with less identity-seeking invested in driving would read nothing personal into the action and view being cut off as a potentially hazardous event to be regarded with caution. Such a driver would be more likely to respond by modifying his or her own driving to minimize the likelihood of collision rather than with anger or additional aggressive action.

We can project, therefore, that the *purpose* of a visual communication campaign aimed at reducing incidence of serious motor vehicle casualties would be to *change over time the nature and content of normative beliefs and expectations about driving that would be observed and gradually modeled by young males*, especially those seeking identity expression through driving.

The problem can be diagrammed as one of identifying “safer” versus more “collision-vulnerable” beliefs about driving as they are collectively held by young men and of adding *weight* to “safer” beliefs by positioning them in the mass media as *having more desirable social outcomes* than “collision-vulnerable” beliefs. In this context the problem of motivating behavioral change is similar to Asch’s (1952) description of attitude change as not so much a matter of learning a new response to an old stimuli, but rather of *reconceptualizing* the stimulus to which one is responding (McGuire, 240).



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McGuire's Sixteen Partial Views of Human Nature That Have Served
as Guiding-Idea Theories for the Dynamic Aspects of Attitude Change

ACTION TERMINATION	ACTION INITIATION		
	Need for stability	Need for Growth	
Cognitive State Internal Relationship	Active Instigation	Active Instigation	Reactive Instigation
	Consistency Consistency theories depict the person as striving to maintain a connected and coherent cognitive system. Heider, Weir, Festinger, Osgood, Tannenbaum....	Categorization Categorization or perceptual theories depict the person in his or her filing clerk aspect, coping with information overload by sorting...impressions. Durkheim, Lévi-Strauss, Foucault...	Stimulation Stimulation theories depict the person as a curious novelty seeker...enger for fads, and avid to avoid boredom. Fiske, Fowler, Berlyne, Bieri, Singer, Streufert, R.D. Rogers, Veroff...
	Hermeneutic Attribution theories depict the person as implicit theorist, spontaneously generating meanings to interpret his or her experiences. Michotte, Kretzler, Helmholz...	Inductional Inductional theories depict the person with a meaning-generating capacity that is activated only if an external need-to-know...requires explanation. Freud, Blumer, Nisbett, Bem...	Utilitarian Utilitarian theories stress the person's problem solving aspect, coping with challenges so as to maximize expected gain...competence, self-worth...goals. Weber, Fishbein, Rokeach...
	Tension Reduction Theories in this cell depict the person as an energy system, experiencing pleasure from release and pain from increase of tension...excitement is aversive. Freud, Leventhal, Lazarus...	Ego Defense Theories in this cell emphasize the need to maintain self-esteem, if necessary by distorting unacceptable aspects of the self and environment. Adorno, Katz, Dichter, Millman, Sears, Kinder...	Template Purpose or teleological theories draw their imagery from computer flowcharts...the person is depicted as a pattern matcher carrying around internal templates. Lilienfeld, Ashby, Moscovici...
Affective State Internal Relationship	Expression The essence of this set of theories is that humans have an acting-out impulse, obtaining gratification from self-expression. Huizinga, Chertas, Lewin, Stephenson, Tannenbaum...	Attraction The most primitive manifestation of attraction is the gregarious tendency exhibited in physical congregation and attachment...source liking...altruism. Darwin, E.O. Wilson, Staub...	Identity Reference group, self-presentation and role theories...[imply] that gratification can be obtained by elaborating one's sense of self via identifying with others. Hyman, Goffman, Tedeschi...
	Repetition Repetition theories stress the person's creature-of-habit aspect...gratification obtained from acting in a familiar way...reinforcement/stimulus-response. Skinner, Hovland, Janis, Bandura...	Assertion Dominance speculations about selfish genes and about society as a war of each against all, emphasizing control over others and power-conferring status. Morris, Lorenz, Galassi, Adler...	Contagion Modeling, social facilitation, and social learning theories stress the gratification obtainable from imitating others...and matching their behaviors. LeBon, Tarde, Bandura, Zajonc, Glaser...

9 Effective Public Communications: existing theories and findings from past campaigns

a Effectiveness of mass communication as a means for changing attitudes, values, and behaviors

Attempts to measure the influence of mass communication media on attitudes and social behaviors have been subject to many of the same criticisms as efforts to link attitudes and behaviors. Empirical measures often show little effect—a result that runs counter to common sense and experience (McGuire, 277).

Issues of *validity* in communication research are similar to those in attitude research since they involve human subjects and provoke questions that leave methods or findings suspect. Problem questions include: Did the procedure measure what was claimed to be measured, or did it measure something else (i.e. “attitude toward situation” or “self-presentation”?) (McGuire, 281). If experiments were conducted in a laboratory setting how “natural” were the results obtained? (Iyengar and Kinder, 11, 1987). If conducted in the field, how were researchers able to establish legitimate control groups (not exposed to the communications) when mass communications are all-pervasive in modern societies? (Ball-Rokeach, Grube, and Rokeach, 84, 1985).

Mass communications can be studied at two levels: at the societal, or “mass,” level, or at the level of specific communication efforts. Among those who argue for the existence of influence at the societal level there are numerous explanations for the precise mechanism. Most theories emphasize larger economic structures that control the communications industry including propaganda theory (Herman and Chomsky, 1988) agenda-setting and priming theory (Iyengar and Kinder, 1987) critical media theory following Marx and Barthes (Himmelstein, 1984) or structural economics that account for the “colonization of leisure time” (Lodziak, 1986).

Among those attempting to measure specific effects of communications such as advertising, violent programming, or children's television, results over the past three decades have been inconclusive. McGuire suggests that this is not surprising since “the history of social science research teaches that the safest prediction on any topic is that sizable effects will not be found except in studies with flagrant flaws” and adds that “the most realistic and refined measures tend to show the least effects (281). As a result, the establishment position for several decades has been that, according to empirical studies, “media presentations do not convert anyone to new views, [rather] they keep the faith of the already committed” (Klapper in McGuire, 281).

Despite the controversy over the exact influence of media, researchers agree that persuasion does occur, sometimes involving media influence, sometimes simply through human interaction. There is agreement that most persuasion occurs gradually and involves a series of events. McGuire has outlined a persuasion matrix that details a twelve-step internal process influenced by

external factors that affect each stage. Not all twelve internal "output" steps are necessary for persuasion to occur (as when a person is persuaded without actually understanding the message cognitively) and they do not necessarily happen sequentially. However, the more steps that occur and the more positive the result, the greater the likelihood of persuasion (259).

The Persuasion Matrix (McGuire)

An Input/Output Analysis of the Communication/Persuasion Process That Underlies Directive Aspects of Attitude Change

Output Steps (Mediating and Dependent Variables)	Input Factors (Independent Variables)				
	Source	Message	Channel	Receiver	Target
1	Tuning in (exposure) to the communication				
2	Attending to it				
3	Liking, interest in it				
4	Comprehending its content (learning what)				
5	Generating related cognitions				
6	Acquiring relevant skills (learning how)				
7	Agreeing with the communication (attitude change)				
8	Storing the change in memory				
9	Retrieving relevant material from memory				
10	Decision making on the basis of the retrieved material				
11	Acting in accord with the decision made				
12	Postaction consolidating of the new pattern				

It is probably not an accident that most of the twelve output steps are similar to those identified as the steps to cognitive learning since persuasion researchers tend to have background in cognitive psychology. Step 7, *agreeing with the communication position*, and steps 11 and 12, are not part of learning

theory since a person can learn a concept without necessarily agreeing with it or deciding to act on it.

The difficulty of the model is that positive responses in the early steps do not predict behavior in later stages. Even where attitude change occurs (in step 7) low correlations with later behavior can be expected (261). Most persuasion research stops with step 7 (260) and most evaluation of communication campaigns stops with steps 3 and 4, *ad liking*, and *ad recognition*, although the true measures of effectiveness are behavioral steps 10-12 (Ogilvy, 161).

Persuasion research typically tests one or another of the input factors against one or more of the output steps in order to isolate significant findings about one aspect of the process. Factors from this work that have been shown to augment persuasion and that are relevant to this study are shown below.

Source Variables

- a *The source must be credible.* However, a source that is slightly superior in status or knowledge to the target audience will be more effective than a source that is vastly superior. A celebrity will not be seen as credible since it will be assumed that he or she has been paid for the promotion. A source that appears to be disinterested in the outcome of an issue will be more trusted than one who is seen to have an underlying motive or personal interest (263).
- b *The source should be attractive.* An attractive source is more apt to be *liked* and *attended to* by the viewer; sources that are too attractive may reduce credibility since it will be assumed that they have been paid (264).
- c *The source should be demographically similar to the audience.* People assume that a source that is demographically similar to them will also be ideologically similar as well (266).

Message Variables

- d *The message should be clear.* Lack of clarity can inhibit persuasiveness by reducing comprehension of the argument, reducing liking and attention to the message, or reducing the perception of source credibility. (270).
- e *The conclusion should be stated in the message.* Leaving the conclusion implicit for the viewer to draw independently can have more lasting effects where a receiver is highly involved. However, in most situations the conclusion should be drawn in the message. Few people are willing to do the cognitive work to draw their own conclusions (272).
- f *Concrete case histories* are usually more effective than abstract statistical arguments (270)

-
- g *Specific informational and persuasive elements of a campaign should change at intervals on a regular basis. People experience "information burn-out" very quickly when a message is repeated too often. Repetition is effective for ensuring impact after the first exposure, but after three exposures people will begin to turn off the message (274).*
- h *Figurative language and metaphor can enhance persuasion, especially if sustained over the course of the communication. Metaphor can increase source credibility, attention, and aesthetic pleasure (attention to and liking of the message), but care should be taken that the analogy is appropriate to the issue or it may interfere with comprehension (270).*

Channel Variables

- i *The nature of the communication medium determines to a great extent what can be accomplished. By a wide margin North Americans now consider television to be their most important and credible source of information (Iyengar and Kinder, 1). Television is also the worst medium for distributing complex information. Print media are more effective for stimulating cognitive involvement, retention, and recall, but it can no longer be assumed that audiences read (McGuire, 276).*

Receiver Variables

- j *For "low-involved" receivers (those not motivated to be involved in the issue) source credibility may be more important than the strength of the argument in influencing persuasion (268).*
- k *High or low self-esteem does not predict influenceability. Although if the message is highly complex, individuals with high self esteem are more likely to be persuaded than those with low self-esteem. This is presumed to be related to greater attentiveness and lower frustration thresholds earlier in the process (289).*
- l *Individuals with low self-esteem are more likely to be susceptible to pressures to conform (289).*

Target Behavior Variables

- m *There is no single "decay" curve for induced attitude change. Stability of the change will depend on all other mediating variables. Change will be more persistent if the message comes from a high-credibility source than from a low one, if the message is more subtle than obvious, if it comes from a low-fear appeal rather than a high-fear one, and if the change occurs through modeling effects. Persistence of attitude change can be enhanced if the person forgets that the change was inspired by a persuasive message and endures independently of recall or retention of the original message.*

b Prior successful public health campaigns

Empirical measures of the impact of mass communications for promoting health campaigns have historically shown low levels of effect (McGuire, 278). However, DeJong and Winsten (1989) observe that the weak findings typically come from follow-up to traditional short-term campaigns. These short-range measurements contradict evidence that “attitude and behavior change is usually characterized by a slow process of erosion and accretion rather than by one sudden upheaval and conversion”(3).

The success of the anti-smoking movement in North America that has had wide mass media expression since release of the U.S. Surgeon General's report in 1964 suggests that the pessimistic view of mass communication effects should be reevaluated. Anti-smoking messages have been distributed to the public on many fronts other than mass communications including doctors offices, government agencies, and through school curricula, but the cumulative effect is undeniable. The public impression of cigarette smoking has shifted away from the glamorous, power-wielding mystique it enjoyed in the forties to the highly stigmatized, dirty habit it has become in the public mind today.

Several notable attempts to measure the effects of mass media in health campaigns under controlled conditions have had significant results. The 1977 Stanford Three Community Study used three separate California communities comparable in size and demographic character to test the effectiveness of media-delivered messages regarding cardiovascular risk, including reduction of dietary fat, smoking cessation and increased physical activity. In the first community mass media were used for two years to distribute messages to create problem awareness and teach risk-reduction skills. In the second community the media program was accompanied by in-person community education programs for groups of high-risk individuals. The third control community received no intervention.

People from each community were interviewed before the campaign began and at one and two year intervals following implementation. In the control community, risk scores increased over the two year study among the adult population; in the community receiving the mass media messages alone there was a decrease in risk among respondents of between 15% and 20% (5).

A similar research plan was implemented in Australia to test the North Coast “Quit for Life” campaign in 1983. In the first community a 40-week media campaign employed paid and free advertising for radio, print, and television and included talk-show appearances, news reports, feature stories and editorials. In the second community the media campaign was accompanied by community workshops and distribution of smoking cessation self-help kits. The third community received no intervention. In the media-only

community, reported smoking dropped 6% to 11%, a reduction of between two and three times that of the control community and almost as high as in the community with additional interventions (5).

A second Australian project directly applicable to this study involved a campaign sponsored by the Victoria Transport Accident Commission to reduce incidence of motor vehicle casualty in the state with specific emphasis on speeding and driving while intoxicated (A.F.A., 1990). The campaign had one primary objective and two secondary ones. The first was to position road safety as an important community issue in such a way as to cause drivers to rethink their own attitudes toward driving. The second was to raise public awareness of two new police programs involving speed cameras along roadways and program of Mobile Booze Buses for blood alcohol testing.

The campaign included two kinds of "ads." The first were informational announcing the new police initiatives. The second set involved extremely graphic 60-second recreations of scenes immediately following collisions in which the driver responsible for the collision was confronted by police and relatives of occupants killed or injured in the crash. The scenes were highly realistic, unsentimental, and emotionally explosive contrasting the excuses and denial of the driver with the hysteria of grieving relatives. The primary message the viewer was left with was "that driver could be me—I would have to live with that—that would be horrible."

The campaign ran in the State of Victoria for one year beginning in December of 1989. The results of the campaign were measured in terms of annual traffic statistics gathered by the state. Statistics from November 1990 (196) show that during the year the state experienced:

- 230 fewer motor vehicle-related deaths (-30%)
- 811 fewer permanent or serious injuries (-20%)
- 6,187 fewer minor injuries (-19%)
- 6,716 fewer collisions (-14%)

At least some portion of the drop in casualty is attributable to the media campaign. While the speed camera and Mobile Booze Bus programs were instituted across Australia during 1989, the ads were aired only in the state of Victoria. Across Australia, road fatalities in 1990 decreased by 11.6% as compared to 30% in Victoria, suggesting the power of combining a well-designed cognitive and emotional component to government initiatives (204). The cost of the campaign was six million dollars, but the Transport Accident Commission (Victoria's third party insurer that bears the cost of road casualty) estimates that there were \$362 million in savings to the community and \$118 million in savings to the commission.

c **Fear-arousing versus positive messages**

The success of the Victoria road safety campaign is due in large part to the quality of the research that went into it. Market research was conducted for a year prior to creation of the campaign to explore existing beliefs about driving among the population. The greatest deterrent to speeding or driving while intoxicated reported before the campaign was "fear of losing the driver licence." After the campaign the greatest fear was killing or maiming another person.

The decision to use a fear approach in the ads contradicted the commonly held dictum in public health communities that fear messages are less effective than positive messages for motivating behavioral change. A number of studies have shown over the years that fear messages are more likely to produce "bureaucratic" compliance or "intention" to comply in the viewer, but less internal desire to change. Fear campaigns are criticized for causing anxiety that results in denial, repression of thoughts about the subject, and less retention and recall of information, while positive messages provide viewers with means for coping with the danger (McGuire, 269).

Some of the studies that warn against negative messages may measure viewer responses that, while valid, don't account for the full dynamic of the campaign (i.e. the right message was tested with the wrong audience, or the wrong message with the right audience). In an article entitled "Fear Advertising—It Doesn't Work," (1989) Tripp and Davenport report that fear messages were the least effective messages about smoking cessation when tested with a group of long-time smokers. The smokers preferred messages that focused on positive benefits of quitting smoking or on the addictive aspects of smoking for which they could get help, but reacted with denial to messages linking cigarettes with death (18).

What may be overlooked in studies such as the one above is that negative messages *may already have been effective* with segments of the population able to be receptive to them. Since the majority of anti-smoking messages in the past thirty years have been fear messages, entrenched smokers (those resistant to the messages) may be the only members of the population left smoking. (This reflects the classic problem in media research of studying effects so large they defy controlled measurement). While the above study points to the need for new approaches for reaching entrenched smokers it cannot be taken as a blanket indictment of fear-based messages.

DeJong and Winsten do not rule out the use of fear advertising. Their assessment in a report to the Center for Health Communication, Harvard School of Public Health, is that "the use of emotionally arousing fear appeals should be approached very cautiously. Their use can be appropriate to create

new awareness of a threat to health" (20). Responsiveness to a fear appeal may depend to a great extent on the perception of personal vulnerability in the target audience. If the danger in the activity is largely unknown, fear appeals can be very effective; if the danger is well known, the audience may disregard the message since their own experiences have not borne out the worst-case-scenario portrayed in the ad (21).

It's clear that driving is an activity for which most North Americans have lost their fear, and we can assume the same was true in Victoria since traffic deaths were rising at a rate of 6% per year prior to the introduction of the campaign. The success of the campaign appears to have come from the identification of a new angle on traffic casualty. While people have a difficult time envisioning their own deaths, especially during an activity as routine as driving, it is easy to imagine causing the death or permanent injury of another. The success of the ads was due to the realism of the scenes in which a viewer could identify with the driver who by everyday standards had been driving "normally," i.e. driving beyond the limits of his or her ability to control the vehicle. Without seeming forced, the ads focused on a rarely considered consequence—having to live with the "life sentence" of killing someone else.

d Use of media to stimulate self-evaluation

The approach taken in the Victoria campaign for causing viewers to reflect on their own beliefs and actions is related in concept to empirical work done by Milton Rokeach in the early eighties using mass communications to stimulate self-evaluation. The premise of the research was to show that *communications designed to stimulate private dissatisfaction in a person with respect to perception of the self as either moral or competent have the potential to cause persistent attitude change in a desired direction.*

Rokeach holds that virtually every event in life prompts people to consciously or unconsciously question their own competence or morality. Behavioral response to this inner questioning will depend on whether the person is *satisfied* or *dissatisfied* with the "answer" and whether the questioning is conscious or unconscious. The dynamic is mapped below.

Self-Satisfaction

If Unconscious	= causes "smugness" and results in maintenance
If Conscious	= causes "growth" and results in enhancement

Self-Dissatisfaction

If Unconscious	= causes "anxiety" and results in diffuse, neurotic, random change
If Conscious	= causes "growth" and results in enhancement

The concept further assumes that if self-satisfaction is overtly threatened, the person will respond with ego-defense, denial, or blocking of growth or change. The persuasive message, therefore, must stimulate self-evaluation without directly attacking beliefs centrally-held by the person. Because attitude change of this sort is self-motivated and involves restructuring of related parts of the belief system, the change will be relatively enduring.

Rokeach tested this proposition in a mass media environment using a finding from earlier research that showed people tending to rank "freedom" very high on scales of values, but "equality" very low with the obvious implication that people value their own freedom, but not necessarily freedom for others. (This is not unlike the responses regarding "courtesy" we found in our survey). Working with television station KWSU at Washington State University the research team produced a television special entitled *The Great American Values Test* (1984) hosted by Ed Asner of the *Tonight Show* and Sandy Hill of *Good Morning America*. Embedded in a general discussion of American values Asner and Hill asked the "television audience" to rank their own values from a list of 16 and later discussed the past findings regarding "freedom" and "equality."

The research plan involved randomly preselected households in two medium-sized communities in central Washington state, with the Tri-cities area as the broadcast city, and Yakima as control city. One third of the test households in each city were sent a values survey seven weeks prior to the broadcast; two-thirds received the same survey four weeks after broadcast. Methods were followed to ensure that viewers who watched the program in their homes during a prime-time, three-way network saturation did not know at any time during the experiment that they were part of a larger study (all contact and communications were from different institutions and agencies in different cities). Control procedures included immediate post-broadcast phone calls to pre-selected households to determine whether or not the program had been viewed (under the guise of KWSU trying to determine viewership for broadcast specials) and to what degree the program had been actively watched, as opposed to simply having been on. Individuals that viewed the program actively became the study group, those that did not view became another control group. Behavioral measures that followed took the form of mail solicitations from various social justice non-profit agencies at 3 month intervals. Over a period of 18 months the study group ranked equality higher on surveys and gave three times more money than did the control groups.

This experiment explored the power of public communications media as vehicles for influencing attitudes and behavior. The premise of the experiment was that public media can be used to positively influence attitudes and behaviors in some individuals if the programming is carefully designed to provoke self-evaluation and moral questioning in the viewer such that change is voluntary and authored by the viewer.

e Social marketing

The Rokeach experiment with a half hour television special suggests the value of exploring public communication opportunities outside of traditional sixty- or thirty-second advertising spots. In their 1989 report *Recommendations for Future Mass Media Campaigns to Prevent Preteen and Adolescent Substance Abuse*, DeJong and Winsten advised mobilizing as many channels of communication as possible when planning a campaign to bring the issue before the audience, including spots on talk shows or newscasts since such airtime is usually free. They wrote "if the public health community knew too little in the 1970s about modern advertising strategies, we can say today that it knows too little about public relations"(8).

Part of the necessary mobilization is social marketing. The term "social marketing" was originally coined by Phillip Kotler in 1971 and refers to the application of broad marketing principles to a social campaign by conceptualizing the desired target behavior as a "product" to be "positioned" in a marketplace. The social "product" is always an idea, but sometimes includes marketing of tangible products as well (such as methadone or condoms). Methods applied to social problems include market segmentation, consumer research, directed communication, and incentives and exchange theory with research guiding all phases. In the book *Social Marketing* (1989) Kotler and Roberto emphasize that "research is what differentiates the marketing approach to social change from earlier impressionistic efforts to influence changes in social ideas and practices"(62).

Kotler and Roberto discuss four factors that have caused campaigns to fail in the past and five factors that can help them to succeed.

Four factors that will cause social campaigns to fail (8)

Audience: If audience members are especially apathetic, defensive with respect to the issue or cognitively unable to grasp the concept, the campaign will fail.

Message: If the message fails to convey sufficiently motivating reasons for the behavior change or to communicate the personal benefits of change to the audience, the campaign will fail.

Media: If appropriate communications media are not used (or are used at ineffectual times), the campaign will fail.

Responses: If the campaign does not provide receptive audience members with easy means to act on impulses, the campaign will fail.

Five factors that contribute to the success of a campaign (11)

Force: If the message is stimulating and the audience has a predisposed motivation for change, the campaign may succeed.

Direction: If the message contains specific information regarding how or where to respond to the message, the campaign may succeed.

Mechanism: If there is an agency or outlet for a person to act on the information, the campaign may succeed.

Compatibility: If the agency is effective at working with the audience to enact the new behavior the campaign may work.

User cost: If the cost to the user (whether in terms of time, perceived psychological risk, expense or distance from the agency) does not exceed the benefits of the new behavior, the campaign may succeed.

Social marketing, therefore, works to identify in advance areas where existing beliefs and opportunities make change possible (as in the Victoria campaign). Successful advertising for commercial products usually operates on the principle of first *creating a need* in the minds of viewers and then offering the means *to satisfy the need* by buying the product. (Direct mail marketing has been even more successful at this because it provides immediate means to act on impulse.) For obvious reasons, selling a social behavior is more difficult. People are already meeting *needs* by engaging in the undesirable behavior—practices that usually involve elements of habit and identity investment.

The objective of social marketing is to identify a “fit” between the *needs* of the target audience (their motivations for engaging or not engaging in the target behavior) and the desired behavioral change. If the target audience can be convinced that the new practice will help them achieve existing social goals, the campaign stands a chance to succeed.

Social marketing focuses on behavior change. Kotler and Roberto identify four events during behavioral change that can be understood as a collapsed list of key “output steps” from the McGuire persuasion matrix. The four events are as follows (18).

Cognitive change: This is the easiest kind of change and involves raising awareness of the issue in the minds of target audience members.

Change in action: This is the phase in which an individual decides to act on the social marketing messages.

Behavioral change: This occurs when an individual makes changes to a set of habitual behaviors and incorporates the new behaviors into daily patterns.

Change in values: This is the most difficult to effect and may not be possible in some cases. (It is not necessary for achieving initial kinds of change). Change in values usually occurs only after new modes of thinking and behavior have been incorporated deeply into the fabric of the daily lives of target audience members.

As discussed earlier, the first three events do not necessarily happen in a fixed order and need not all occur for some change to register. There are essentially four reasons people will be *willing* to change their behavior that vary both in terms of the speed at which the behavior is adopted and the durability of the change. These relationships are mapped below (93).

1.	Short-term/Fast	Compliance	<i>Compliance as with company policies, rules, laws, or religious doctrine</i>
2.	Short-term/Slow	Knowledge	<i>Acquisition of knowledge that makes the change seem reasonable</i>
3.	Long-term/Fast	Identification	<i>Modeling behavior of admired others</i>
4.	Long-term/Slow	Internalization	<i>Belief that the action is the right thing to do</i>

These motivations for behavior change can be understood in terms of Rokeach's description of change within the belief system. The two short-term motivations, *compliance with rules* and *knowledge acquisition* involve actions that do not necessarily involve the sense of self. They engage beliefs that are not centrally held, i.e. "I believe undesirable things may happen if I do this," or "I believe it is reasonable to do this." Acting on these peripheral beliefs may alter other loosely held beliefs, but not necessarily deeper beliefs regarding the self as a *competent* or *moral* person. Such superficial change cannot be assumed to be persistent.

The two long-term behavioral changes on the other hand, *identification* and *internalization* are best understood as responses to deep beliefs regarding identity i.e. "I believe I would like to be like him", "I believe if I do this she will think well of me," "I believe I would be immoral if I did that." Behavioral changes of this sort imply deeper activation of the belief system as it relates to maintaining and enhancing self esteem. Such realignments of beliefs can be assumed to affect other centrally held beliefs and, therefore, will be more persistent.

Much of the durability of change that occurs through *identification* and *internalization* derives from explicit or implicit interaction with others. Modeling is clearly a process of shaping the perception of self by adopting traits admired in others; internalization involves assessing values and judgements regarding right and wrong that are usually formed slowly through interaction with others. Kotler and Roberto emphasize that one of the major determinants of the success of social programs is the capacity of the “product” to stimulate word-of-mouth communication in the community and to stimulate peer influence and modeling.

Social marketers look at the events and motivations leading to behavioral change in terms of three model sequences that culminate in long-term internalization. The sequences are referred to as “*learn-feel-do*”, “*learn-do-feel*,” and “*do-feel-learn*” in which *learn* refers to cognitive processes, *feel* refers to emotional or attitude change, and *do* refers to adoption of the behavior (93).

The most commonly attempted scenario is *learn-feel-do* although it is not necessarily the most effective. *Learn-feel-do* begins with informational and persuasive communications which are intended to produce attitude change and lead to behavioral change and internalization, but as discussed previously, cognitive and attitudinal change do not necessarily cause behavioral change. (Some attitudinal change can serve as a cathartic substitution for action). *Learn-feel-do can be effective if target adopters are already highly involved in the subject area and if communications lead to a clear perception of differences between the target behavior and its alternative.*

Learn-do-feel also begins with informational and persuasive communications, but is followed by a trial adoption which results in deeper emotional involvement and internalization. *Learn-do-feel can be effective if target adopters have low involvement in the subject area and action is motivated by other incentives.*

Do-feel-learn begins with trial behavioral change (as induced by compliance, enforcement, free samples, or peer modeling) which leads to attitudinal change that stimulates interest and additional learning and internalization. *Do-feel-learn can be effective if target adopters become involved with an idea or practice, and especially if the choices are nearly the same.*

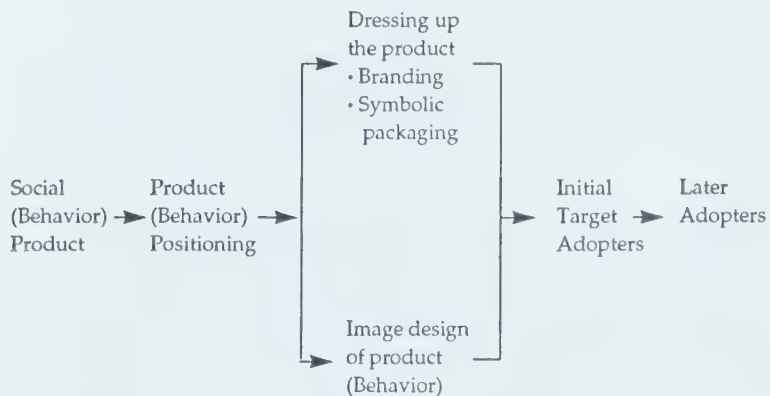
The *doing* factor in these models can be extremely important since learning that follows a trial behavior will often lead to increased commitment (101). People sometimes engage in a behavior to determine their beliefs about it. Kotler and Roberto note that target adopters evaluate the benefits of a target behavior based on their immediate concerns (as in Fishbein’s *Theory of Reasoned Action*). If they have more time than money, the cost will be the determining factor; if more money than time, convenience will have more weight. Whatever the *doing* factor, people like to see immediate results from adoption.

Whether the target behavior involves a tangible product or not, the objective of the campaign is always to replace one source of satisfaction with another. The more specific the campaign can be in identifying *unmet needs* in the target population and then providing the means to *satisfy* them, the more successful the effort will be.

The design of a social marketing campaign is the same as a marketing campaign for a commercial product. The first step is to “position” the product/behavior by bringing it to the attention of the target audience within a particular frame of reference. This is the stage at which social marketers identify the major *needs* of the audience (being met by the problem behavior) and determine a distinctive and motivating substitute behavior.

The communication problem is then split into “branding” and “packaging” the problem behavior. Where a tangible product is involved, branding and packaging are essentially the same as for a commercial product, but where the product is a behavior, the “idea” must be “packaged.” This includes giving the campaign and its principal concepts an identity in the media, such as the verbal and visual identities for the *Break Free* and *Checkstop* programs. Once the initial campaign has an identity, subsequent communications and information can be introduced under the same “brand” with instant recognition. “Packaging” a campaign ensures a level of consistency and quality in the aesthetic properties of the communications.

“Image design” involves decisions regarding the ongoing tone of the campaign, ensuring messages are credible, compatible with the demographics of the target audiences and presented by attractive sources that target adopters would like to emulate. Image positioning is important for stimulating role modeling among target adopters and should be directed at the style leaders or trendsetters in the population if they can be identified. The flow chart for a social marketing campaign is diagrammed below (31).



f Implications for this study

The preceding section on social marketing clarifies aspects of young male driving that make it a particularly challenging communication problem. We consider these aspects obstacles to persuasion that need to be treated carefully. Other factors can be looked at as opportunities. The major obstacles and opportunities can be summarized as follows:

Obstacles

- *Driving is a sensitive issue for young adult males* because most have a degree of identity investment in the belief that they are good drivers and that good driving helps define masculinity. Any direct attack on their current driving will be taken as an attack on their personal competence and will result in defensiveness, denial, and rejection of the messages on their part.
- *Driving is not a commodity or a substance.* The benefits of driving safely are highly intangible because the serious consequences of unsafe driving (paralysis, brain damage, or death) seem remote to most drivers. Compared to smoking or drug abuse where some damage to health is relatively certain over time, traffic injury has a random, Russian-roulette quality about it. There are no immediate benefits such as fresher breath or money to be saved to offset the pleasure of the habit that is being given up. (In this case speed and character display provide the pleasure). The benefits of safer driving are inherently abstract.
- *Driving is an activity for which 18-24 year old males have lost much of their fear.* Driving is not a new or sudden threat to health or well-being; it is a ubiquitous, almost unavoidable daily activity about which the dangers are well known, although not heeded. It can be assumed that high-fear appeals will not be effective unless they focus on a new, underrecognized danger as did the campaign in Victoria, Australia.
- *Certain vehicles and styles of driving have connotations of glamour and status associated with them.* Any message regarding safer driving will have to contend with the enticing social and psychological associations of motor vehicles and driving as portrayed on television, in films, and advertising.

Opportunities

- *Young adult males are very interested in driving.* The relatively high response rate to our survey even though it was sent at a bad time of year (many respondents were dispersing for summer jobs) and was not aggressively followed up (only one reminder card was sent) suggests that driving is a topic of "high salience" to the target audience. We can assume from our contacts with respondents thus far that our communications will get their attention. The important thing will be to not alienate them.

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- *Young adult males consider driving an activity through which they can demonstrate competence and masculinity.* Since many in the target audience already look to motor vehicles and driving for a certain amount of identity expression, we should be able to position safer driving practices as further expressions of competence through careful pretesting of communication concepts with audience members.

Communications of this sort will probably work best if they position specific safer or defensive driving practices as “skills” or “strategies” for collision avoidance. The objective of these communications should be to *redefine* driver competence and to provoke conversation within peer groups to stimulate imitation and modeling. The communications should be targeted to style leaders or trendsetters in the peer group to the extent that such a sub-group can be identified. The communications should also anticipate potential rejection and denial arguments and counter them in the messages before they surface in peer conversations.

- *Although muted, young males do perceive an ethical component to driving.* Their frequent references to “courtesy” or lack of it in the driving environment is deeply rooted in Canadian social culture and should be considered a positive expression of ethical orientation. An objective of at least one set of communications should be to steer definitions of “courtesy” away from “that person is in my way” and back toward a more traditional reading, i.e. “that person is in my way, but has a right to be on the road, so I should be considerate.”

While admittedly difficult with this age cohort, communications should explore possibilities for raising awareness of the different driving styles and concerns of different driver groups such as the elderly, immigrant Canadians, novice drivers, as well as anyone who is unfamiliar with a particular stretch of roadway (emphasizing that this includes everyone at some time or another). It’s perhaps not out of the question to try to work with the existing cultural pride in courtesy as part of the Canadian national character and position it as “cool.”

There are also ethical intonations in the remarks of the repeat offenders group regarding keeping a vehicle in good repair. The comment “I don’t like it when people don’t take care of their cars...that’s over and above attitude” suggests a person looking for proof of competence and “moral high ground” in his own approach to motor vehicle use and driving even though it has been stigmatized as “deviant.” Verbally reinforcing vehicle upkeep as a mark of competence presents an opportunity to “stroke” the self-esteem of the group while planting positive messages regarding collision avoidance.

Points to consider when designing the campaign include:

- Attitude change occurs over time. A single, short-term campaign cannot be expected to produce long-term attitude change, but should be reinforced regularly over time with additional complementary messages.
- The media campaign should consist of different kinds of message appeals and approaches since different individuals will respond differently to various kinds of messages.
- Messages and approaches should change at regular intervals to keep people curious and engaged in the ideas. People will “burn-out” on a message after too many repetitions.
- The media campaign should position new target behaviors as having desirable social outcomes for adopters.
- Media campaigns should attempt to activate existing peer role-modeling networks.
- The media campaign should position the desired target behaviors as actions that will demonstrate competence and morality in the adopter.
- The media campaign should consider the value of non-ad promotions such as spots in television news programs, talk-show appearances, and television specials to embed the issue in current media culture in order to stimulate interpersonal dialog about it.
- Where possible, media campaigns should be accompanied by appropriate government actions to enforce or facilitate the adoption of the desired behavior.

**This in no way minimizes the tragedy of the deaths and permanent injuries suffered by teenagers who engage in stunting, but in both the British Columbia study and in ours, which focused on the young drivers' perceptions of their injury collisions, the vast majority believed that at the time of their casualty collisions they were driving "normally". Stunting crashes are not considered "real accidents" by the respondents because they are self-inflicted, and because as an equation of total attempts and failures, the majority of crashes result in only minor injuries.*

One respondent in the repeat offenders focus group recounted "I've had a few stunting accidents, like, I've hit a tree. The only accident I've really had was, I was in my dad's truck and I was on 99th street by Hughes there, and there's some guy turning left... (34)."

a Summary of conclusions from the study

A paradox of existing traffic safety data and theory is that while stunting and risky recreational driving are most common among newly licensed young males aged 16 to 18, *the greatest risk of involvement in fatal or serious injury-causing collisions for young men occurs between ages 18 and 20* (Schuman, et. al., 103) (Alberta Statistics, 1991).

This greater risk is explained in several ways. Whereas youthful stunting activities, such as racing and tire squealing, appear dangerous and irresponsible to adults, they often are performed under relatively controlled circumstances when the young males are alert and somewhat aware of the risks they're taking* (Rothe, 1987, 174). Second, although every year of driving experience means a reduction in collision involvement for young women as they gain confidence in anticipating and managing hazards, for young males the additional experience leads to greater confidence in their driving skill. This leads to less caution and more *actual* risk-taking in the form of higher speeds and greater aggression in *real* traffic. Third, most young males have greater access to alcohol after high school than they did when they were first licensed.

Our conclusions drawn from traffic safety literature, the focus group transcripts, and the survey data suggest that while perhaps a small percentage of the 18-24 year old male driving cohort holds extremely *high-risk* attitudes toward driving—defined as pathologically high levels of emotional investment in the social outcome of traffic negotiations as a form of identity seeking—nevertheless, a great many still hold *beliefs* about driving and the traffic environment that may predispose them to involvement in serious collisions. These include beliefs about how traffic *ought to be negotiated* that do not necessarily correspond to the way events really occur, especially beliefs about the primacy of *traffic flow*, and the primacy of *vehicle handling as a means of collision avoidance*. We consider these beliefs to be normative features of North American "automotive culture," held especially, but not exclusively, among young adult males. The extent to which a driver also *attaches emotional importance to the outcome of traffic negotiations as an expression of identity* will correspondingly increase the likelihood of serious collision.

A small minority of respondents in our study claimed to dislike driving and could be characterized as averse to automotive culture. These respondents reported correspondingly low numbers of demerit points on their licences, and were underrepresented in the injury collision group.

b Communication objectives

From the beginning we have conceived the campaign to be targeted toward 18-24 year old males. However, we also recognize that a public campaign will be seen by people across all demographic categories. Since young adult males are the immediate role models of teenaged males we predict that a campaign that proves effective for 18-24 year olds will also influence those immediately younger (although the reverse would probably be true). Likewise, *any increase in public dialog about safety and collision reduction will be considered a desirable outcome* since dialog informs normative expectations. Therefore, while we specifically address the target cohort in our objectives, we consider any spin-off to other segments of the population a secondary objective.

A traffic safety communication campaign targeted toward 18-24 year old males should accomplish the following primary objectives:

- 1 *Raise the level of awareness* among the cohort that motor vehicle collisions are, in most situations, predictable and preventable events.
- 2 *Raise the level of awareness* among the cohort that motor vehicle collisions are events with potentially life changing and life destroying consequences that are irreversible once experienced.
- 3 *Raise the level of awareness* among the cohort that motor vehicle collisions are caused by specific driver actions that the driver can *choose not to engage in*. These driver actions may be widely practiced habits based on commonly held assumptions about driving, but they are also potentially lethal.
- 4 *Begin the process of changing over time* the beliefs held by the cohort about what constitutes competence, control, and courtesy while driving.
 - **Redefine competence**
Redefine competence to mean *anticipation* of potential traffic problems and subsequent *adjustment of one's own driving* to compensate for environmental conditions or the actions of others (rather than as the ability to maintain *flow* at high speed).
 - **Redefine control**
Redefine control to mean *consciously choosing not to drive at or beyond the limits of one's ability to manage the vehicle in the event of sudden or unexpected events* and to consciously drive so as to *reduce the likelihood of their occurrence* (rather than as the ability to demonstrate skillful maneuvers in a crisis).

- **Redefine courtesy**

Redefine courtesy to mean *one's own pragmatic consideration of other drivers' errors*, and promote a sense of taking responsibility for ensuring the safety of other drivers who may be less skilled or knowledgeable than oneself (rather than defining it in terms of other drivers' unwillingness to keep out of your way when you are in a hurry or enjoying flow).

5 *Raise the level of dialog within peer groups about the above concepts.*

6 *Position the above concepts as "cool" and mature beliefs to display to others.*

c Criteria for communications

Five concepts should guide the design of the communication campaign.

A *The campaign should not be viewed as a single communication concept, but rather as a series of concepts introduced over time. Not all people respond to a message in the same way. Therefore, the campaign should consist of a series of approaches that will be effective with different members of the cohort at different times.*

B *Specific informational and persuasive elements of a campaign should change at intervals on a regular basis. People experience "information burn-out" very quickly when a message is repeated too often. Repetition enhances impact after the first exposure, but after three exposures people will begin to tune out the message (McGuire, 274).*

C *The communications should contain specific information about driver actions most likely to result in serious or fatal injuries. The communications should contain information about reducing the likelihood of collision that the public can act on immediately.*

D *The communications should work with existing fantasies and associations held by the target audience about driving. The communications should take advantage of the existing fascination driving holds for the target audience by using the prevailing aesthetic of automotive culture to attract attention while associating "safer" driving practices with the sought after social benefits.*

E *The campaign should pursue public relations opportunities and non-traditional uses of the media to increase public dialog about traffic safety.*

A The campaign as a series of concepts

Our target audience of 18-24 year old males is made up of a number of subgroups, members of which respond differently to different communication approaches. Not all will respond positively to every message. We have to assume that the audience (with the exception of the seriously injured) has had the experience of having problem driving behaviors such as speeding “positively reinforced” because they have thus far avoided permanent consequences. We therefore expect to find the belief that “it can’t happen to me” present among most members of the cohort. Three main subgroups are as follows:

Repeat offenders

The participants in the first focus group represented a subgroup that can be likened to the entrenched smokers in the Tripp/Davenport study. They know that they drive in a way that is not sanctioned by traffic authorities and they know there is potential for danger in their driving, but as yet they have not suffered permanent consequences. As a group they will be very resistant to fear appeals of the traditional “you could die” variety. We also project that demographically a higher proportion of them will have had life experiences that lead to a poor self-concept and suicidal thoughts that weaken their impulse for self-preservation. They tend to have a high level of emotional investment in driving as a display of competence (low self-esteem does not diminish the need for affirmations of self worth) and will be highly resistant to messages that threaten that outlet. We therefore predict that this group will have a better response to messages that address them as good drivers and approach *good driving as a strategy for collision avoidance* which they can emulate. It's impossible to know without testing how repeat offenders would respond to high-fear ads such as those produced in Victoria, Australia.

Young adult males involved as drivers in injury collisions

This group is more difficult to define than the repeat offenders. Not all members of this subgroup were responsible for their collisions (and some as individuals may hold safe beliefs), but from past research we assume they hold beliefs about driving that *collectively* predispose them to collision to a greater extent than the general population. Results from our survey suggest that they have slightly higher than average levels of interest in automotive culture, speed, and a greater commitment to the primacy of *flow*. We assume that the impetus behind their need for public display of competence and masculinity through driving derives from the normative expectations of others. In other words, they are already modeling driving behaviors to meet social needs, but without the problem profiles of repeat offenders. Because they have suffered some consequences from minor injury collisions we predict that this group has an above

average interest in issues of traffic safety (as shown in their higher response rates to the survey and comments in the focus groups). We assume that they will respond well to positive representations of *collision avoidance strategies* so long as the communications do not to put them on the defensive. Fear appeals should also be tested carefully with this group.

The general population of young adult males

This “group” is obviously the most heterogeneous. While it’s clear that many young males among the general population enjoy aspects of automotive culture there are also individuals among them who have little or no interest in driving. Members of this broad 18-24 year old cohort do not consider themselves to be problem drivers and may, therefore, be more receptive than the first subgroups to high-fear appeals that shed light on common driving hazards. Since the majority of this group has driven without mishap we have to assume that they currently modify their driving to some extent to avoid collisions. Self-esteem and normal impulses for self-preservation can be assumed to play a role in mediating existing social pressures to conform to normative, but risky, driving practices.

Across all three groups indignation was expressed about the higher motor vehicle insurance costs they bear as an age category, but especially among the general drivers. They feel unfairly singled out and view it as an unjustified financial burden since they also consider themselves to be the best drivers on the road. We have to be prepared for rejection of communications that appear to further single them out or stigmatize them in any way. Design testing may show that unless messages appear directed toward age/gender-neutral audiences they may be rejected by our target audience. We may find that part of the design problem is to create public communications that interest, stimulate discussion, and encourage modeling among 18-24 year old males without appearing to target them specifically. The Victoria ads were gender-balanced although the actors playing the drivers were all fairly young. It would be interesting to know the demographics of the reduced casualty rates in the state as well as the total numbers.

B The campaign should change at intervals over time.

As already discussed the content and conceptual approach of the campaign should change at intervals to prevent audience “burn-out” or complacency. People will have limited attention for any single message or approach during any given period, but it is the total exposure and impact over time that will determine the effectiveness of the effort.

- C The communications should contain specific information about driver actions most likely to result in serious or fatal injuries. As Jorge Frascara pointed out in his discussion of safety communications criteria in *Traffic Safety in Alberta* (Frascara et. al., 1991), effective public communications must provide a means for people to take direct action on the messages, since general appeals "such as 'be more alert', or 'pay more attention'...do not produce operative changes" (16). To be effective, a communication campaign must include clear information about specific driver actions and decisions that the public is being asked to take that are preferable to those in common practice.

Frascara also proposed that, in order to use resources effectively, communications must focus on those driver actions most likely to cause fatal or serious injury collisions. Data drawn from Alberta Statistics 1990 show the most common driver actions cited as causes of casualty collisions expressed as percentages of collisions for the cohort and also for all drivers in the Province (17).

*In 1990 in Alberta, 18-24 year old drivers suffered 968 single vehicle casualty collisions, or 6.7 per 1,000 drivers their age. Males aged 25-34 suffered 873, or 3.05 per 1,000 drivers their age. This reinforces the idea that 18-24 year old males are twice as likely to overestimate their ability to control a vehicle than the next oldest age group (Frascara et. al., 17).

Human Action		Casualty Collisions		Fatalities	percent of collisions
		18-24	All	(all drivers)	
1	Unsafe speed	9.8	6.1	5.3	
2	Ran off road	8.8	6.3	13.7	
3	Follow too close	8.2	7.1	0.4	
4	Failed to observe traffic signal	6.6	5.7	8.2	
5	Left turn across path	4.0	4.9	2.8	
6	Failed to yield right of way	3.9	4.5	5.2	
7	Entered lane when unsafe	1.9	1.9	0.5	
8	Driving left of center	1.8	1.6	12.4	
9	Improper passing	1.1	0.7	1.4	
10	Improper turn	0.9	1.3	0.9	
11	Backed unsafely	0.7	0.7	0.5	
12	Failed to signal	0.1	0.1	-	

The table highlights some of the contradictions between the young men's beliefs about driving and the reality of traffic casualty. Cause #1, *unsafe speed*, is the leading cause of casualty for their age group, but speed in their judgement defines a good driver. Cause #2, *ran off road*, is not so much a cause as it is a *result* of unsafe speed as well as over-confidence in one's ability to handle the vehicle.

Special attention should also be paid to cause #8. Although driving left of center is listed as a cause in only 1.8% of the casualty collisions of the group, it accounts for 12.4% of all fatal collisions in Alberta. (This factor is related to the greater percentage of fatal collisions that occur in rural areas, primarily as head-on collisions, many on unpaved roads. In many cases driving left of center is also related to excessive speed in that a driver will hold to the center or left to maintain contact with the gravel surface, especially when "ironing out curves." The fact that the roads are sparsely traveled also contributes to reduced wariness of oncoming vehicles). Cause #3, following too closely, has the reverse relationship to fatality. While responsible for 8.2% of casualty collisions among the cohort, it results in only 0.4% of all fatal collisions, although some instances of a vehicle leaving the roadway may also be the result of evasive maneuvers from following too closely at too high a speed.

The information in this table suggests that the content of the communications should focus on driver actions most responsible for serious collisions as listed below:

- 1 Unsafe speed
- 2 Running off the road
- 3 Failing to observe traffic signals
- 4 Following too closely
- 5 Driving left of center
- 6 Turning left across the path of
 oncoming traffic

D The messages should address existing fantasies

The target audience already has considerable interest in driving and driving culture and their existing fantasies should be seen as the starting point for communicating with them. The campaign should use the aesthetic of automotive culture to engage the audience so that "safer," more defensive driving practices can be associated with the positive social goals and identity-formation they are already pursuing. Among the majority who claimed to enjoy driving the experiences that were particularly valued or enjoyed were:

- a Sensation of freedom
- b Convenience and mobility
- c Sensation of speed
- d Opportunities to show skill or competence as a driver.

a Design plan

This campaign has not been conceived as a single “big idea,” but rather as a series of cells that contribute to a whole. The campaign is organized under one umbrella theme, although more of these could be developed eventually. The purpose of the umbrella theme is to provide an “identity” under which audience members can “file” isolated messages for greater long-term impact. The meaning or underlying message of the identity should be made clear in lead communications so that subsequent messages about specific aspects of driving will be understood in the context of the larger message.

The individual “cells” coordinated under the umbrella theme are created by matching specific driver actions with communication approaches geared toward a particular segment of the target population. This structure for “fitting” audience needs with concepts is diagrammed on the following page. The possibilities for combination of elements is almost limitless. The number of cells implemented, of course, is limited by budget and judgements made on the basis of anticipated effectiveness from testing.

**I was recently talking with a 21 year old friend of the family who has seven speeding tickets on his licence. While driving a few rainy weekends ago, he lost control on a curve and left the road, almost putting his girlfriend into a telephone pole on the passenger side.*

I asked him why he drives so fast and he replied, “It’s just the way you drive. You try to go as fast as you can. I’ve always driven like this. It’s a habit like any other habit. Why do you have a cup of coffee in the morning?”

Umbrella theme

The umbrella theme that I propose is contained in the phrase “In Control.” Our contact with members of the target audience shows that the most collision-vulnerable members of the cohort have a strong existing *need* to demonstrate that they are “in control” of a motor vehicle while driving. They currently associate control with physical handling skills and emergency maneuvers. They consider it a normative expectation that they will drive above the speed limit and try to maintain a seamless flow of forward motion*, although reducing speed to match the flow of other vehicles is not acceptable. To drive otherwise is to show that you are not a good driver—not in control. Some members of the cohort intentionally put themselves in situations where they will have to visibly execute special maneuvers to demonstrate control.

Virtually every motor vehicle advertisement in print today uses the word “control” at least once. My highest count so far is six references to control in a three-paragraph BMW ad. The purpose of each “cell” of the campaign proposed here is to draw attention to a particular driving situation in which control is best demonstrated by drivers who anticipate hazards and intentionally *reduce the need to rely on emergency maneuvers* which can be tragically ineffective. Control is positioned as a *strategy for collision avoidance* (with all of the traditionally masculine connotations of sport, war, or business acumen). The campaign will reinforce that emergency maneuvers are important during true emergencies, but will demonstrate that most “emergencies” are created unnecessarily by drivers who lack the *control* to prevent them. Men who are *in control* are cool, calm, and alert, (qualities they already value) and *prepared to alter their speed and the position of their vehicles relative to others well in advance of potential hazards arising*. They are too cool to be in a hurry.

The Design Plan

Umbrella Identity
[In Control]

Concept/Tone

*Communication
Approach*

*Source
Variables*

I	II	III	A	B	C	D
<i>Cognitive Persuasion</i>	<i>Affective Persuasion</i>	<i>Behavioral Modeling</i>	<i>Peer Moderator</i>	<i>Voice Over</i>	<i>Music/ Image</i>	<i>Narratorless Drama</i>

Television 1

Radio 2

Newspaper 3

Magazine 4

Billboard 5

Talk Show 6

a
Unsafe
speed

b
Running
off the
road

c
Failing to
observe
traffic
signals

d
Following
too closely

e
Driving
left of
center

f
Turning
across the
path of
oncoming
traffic

X
Repeat
Offenders

Y
Injury
Drivers

Z
General
Cohort

b Concept scenarios

Each “cell” of the campaign is a concept that matches a traffic safety problem with a particular communication approach under which a number of scenarios can be developed. Running several ads concurrently as a “series” strengthens the reach and impact of the campaign without annoying or “burning the audience out” on a single repetitive ad.

The cell framework is basically a structure to assist brainstorming for developing individual communication scenarios. (The categories shown for media and source variables are not exhaustive, but serve as a starting point.) Brainstorming or “concept development” is a phase of the imaginative process in which all ideas are considered equally valid. The cell framework helps to organize ideas as they are generated so that they can be subjected to more critical evaluation later.

The most important criterion for consideration of a concept for production is its effectiveness with the target audience. The design team evaluates the merit of various concepts and selects a few to be mocked-up via story boards (or, ideally, sample videos) to be tested in focus groups with target audience members. It is assumed that some concepts may be rejected by focus group participants, in which case we start again to find the “fit.” What follows are initial concept scenarios that could be used to start the process.

1 I/IIIA1aX/Y Peer Race driver

Scene: Local speedway. Cars in background are competing in time trials. Driver of an amateur modified-, sprint- or other mid-level race car guides car to a stop, takes off helmet. “I love speed. I guess you could say it’s my thing. Speed and strategy. Cut to inside of car during a race. There’s a lot of strategy out there on the track—trying to anticipate what the other guy’s gonna do. Cars shift for position—It’s a timing thing—there’s a code all the drivers understand because we’ve all got the same goal. I would never try to drive in traffic like I do on the track. No way. Out on the street everybody’s driving for different reasons. Cut to city freeway. My strategy for traffic is to assume that people will do things that seem bizarre. I stay with the flow even if it’s slower than I like. I leave distance between myself and other vehicles—Cut back to track. I guess it’s my responsibility to prevent a collision if I can...stop action cut. Cut to “In Control” logo.

• I/IIIA1aX/Y Peer Race driver (female)

It would be interesting to know if there are any female race car drivers in Alberta. A woman driver would be an intriguing moderator for a related spot. If women drivers exist it could provide a nice image of impartiality. Other narrators could emphasize that roads and highways aren’t designed for racing speeds, etc.

2 IB1aX/Y Road Test in Germany

I recall at one point reading about an experiment in Germany in which two professional race drivers in identical German sports cars departed at exactly the same time from a location at one end of the autobahn for a destination at the other end some 300+ kilometers away. One driver was under instructions to drive as fast as he could, as aggressively as possible, without regard for traffic laws or courtesy to other drivers. The other driver was instructed to drive as fast as he could, but to observe all traffic control devices, laws, common courtesies, and to drive as smoothly as possible avoiding all unnecessary braking or acceleration. Both cars were wired with equipment to record all mechanical events. The two drivers finished 300+ kilometers later something like 17 minutes apart. The numbers of brakings and accelerations differed by several hundred and wear on the brake linings were measurable in micrometers of metal. A voice-overed reenactment of the experiment with all the technical details could be an attractive and memorable plug for smooth, considerate driving—leaving the impression that aggressive driving is pointless, bad for your vehicle, and frankly, “uncool.”

3 IB1dZ Fifty-first driver

A slow pan along a “pile-up” of vehicles variously damaged that have crashed into each other on a wet roadway (possibly as black and white cut together stills). Voice over: “When you think about a fifty car pile-up, what does the fifty first driver have that the others don’t? Cut to unblemished vehicle (in color) stopping several feet short of the last, still skidding, car. Control. Cut to bold word CONTROL. The formula is pretty simple. A computer simulated diagram. Give yourself one car length for every fifteen kilometers per hour of speed. At 100 Ks that’s 6-7 car lengths. Cut to back of semi. If you can’t see what’s happening three vehicles ahead, you’re too close. Cut to driver of unblemished vehicle. Think about it. Why come in first or second when you can come in fifty first?” Cut to “In Control” logo.

4 I/II/III B/C1eZ Gravel Road

Scene: Nice looking young man in a pick-up pulls off the highway onto a dirt road. Nice big dog in the back. Young man checks rearview mirrors, puts in a tape (strains of a current hit tune), appears to enjoy the Alberta countryside, but keeps both hands on the wheel. Cut to foot easing on accelerator as he slows a bit while approaching small hill, keeps far to the right. Just beyond the crest of the hill he brakes a bit and swerves to avoid a cow on the road. Young male voice over: “Too many of Alberta’s deadliest crashes are still head-ons on rural roads. There’s not much traffic so people just get used to driving like they’re all alone out there—they drive the middle, iron out curves, whatever. Still keeping right as he approaches another small hill. Keeps hands on wheel and holds firmly to the right as another pick-up barrels over the crest of the hill in dead center of road. Avoids collision.” Freedom of the road is great feeling. Why get carried away?” Pulls into farm. Overhead of farm pans back as he lets dog out of back of pick-up. Cut to “In Control” logo.

These concepts, all for 30-60 second television spots, are based on positive role modeling and the idea that "control" can be redefined in defensive driving terms. It's important that the lead ad, in this case the race driver spot, should be very clear about what "In Control" means. Subsequent ads can then range a bit further in the direction of specific content or more rhetorical treatments.

In the first two spots the race drivers and German traffic engineers are "authority sources"—admired experts in a position to "know"—but, especially in the first spot the authority is a peer, not so superior as to be intimidating. The spots should have the quality of divulging insider information. They should imply that this is the stuff the pros know and that maybe everyone else should.

The campaign should seriously consider use of a half-hour Rokeach-inspired television special that poses the question "how much do you *really* know about driving?." The program should be designed to stimulate private self-evaluation as local automotive experts—machinists, professional drivers, engineers— (not police or traffic safety authorities) dispel myths and position defensive driving skills (without calling them "defensive") as strategies for collision avoidance which is positioned as the end goal of competent driving.

Television is an essential medium for distribution of the initial messages since it is the primary (and most trusted,) source of information for most people. (Iyengar, 1). Once the campaign is introduced, however, second and third tier communications such as billboards or print ads can be used to bring the campaign message into people's immediate environments (television information is an abstraction that can remain remote without tangible support in a person's surroundings). Our survey indicates that a large portion of the cohort listen regularly to music and talk radio programs while driving—a good place to hear reinforcing messages about driving. The survey also suggests that the sports pages of newspapers would be a good visible outlet. Print ads in *Alberta Report*, billboards, the back panels of buses or posters for distribution to automotive shops, bars or cafes are also possibilities.

These support communications serve the same function as the ubiquitous "Checkstop" identity mark that appears on brown bags at the liquor store and rinkside at hockey games. While the "Checkstop" logo is extremely institutional and graphically rather brutal, its visual treatment is appropriate in that it symbolizes the weight of Provincial law enforcement measures that will be brought against violators caught driving under the influence. The "In Control" identity on the other hand represents a persuasive campaign and should, therefore, take its visual cues from athletic wear promotions and the current automotive aesthetic.

The campaign should also consider creating a set of highly emotional ads like those introduced in Victoria to set the baseline understanding of the consequences of speeding and irresponsible (normal) driving with a focus on the drivers' horror and denial at having killed or maimed another human being. Use of the "In Control" identity with such ads would have to be evaluated since the tone of the ads is quite different. A second umbrella theme might be necessary for these ads. The difficulty of highly emotional ads like these is that, as with all messages, people will eventually tune them out. The first-time shock value appears to be extremely effective as a consciousness-raising device, but a positive modeling campaign such as "In Control" should follow to reinforce the desired behaviors over the long term. The shock effect is not sustainable. It will be interesting to find out how persistent the lower casualty rates in Victoria are as a result of the campaign.

It's possible that a campaign of this sort would meet with skepticism and potential ridicule by some members of the population (although care should be taken to minimize such effects). An initially negative response, however, whether from the cohort or other members of the population should not be interpreted as "failure." After all, virtually all drivers consider themselves "above average" drivers. The primary purpose of the campaign is to stimulate self-evaluation, dialog about driving issues, modeling of desired behaviors and to promote the idea that the new behaviors are positive character traits. The objective is to instill a new set of normative expectations over time, largely by modeling and planting the concepts in the collective subconscious.

The success of the campaign would best be measured in terms of the extent to which audience members internalize and act on the messages over time. Ideally, these preliminary communication concepts should be pretested aggressively with the target group and refined to take the form of a sample campaign to be implemented on a trial basis in a medium-sized Alberta city. Collision statistics from the test city should be measured against those from a demographically similar control city over a one to two year period to determine the effectiveness of this approach for larger scale implementation.

c Professor Frascara's analysis from visual testing

A source of input for visual detailing of the communications was provided by visual testing from the focus groups. At the midpoint of each focus group session, Professor Jorge Frascara showed participants two sets of advertising images and one set of traffic safety posters and asked them to rank each set in order of their preferences for the images and messages (Frascara, et. al., 1991). From the ranking and discussion periods that followed, Professor Frascara produced a set of observations that should be considered when directing communications to this study population.

These observations can be summarized as follows:

Responses to a set of liquor ads:

- The young men tended to prefer images that project moods of solitude, warmth, and relaxation.
- They tended to prefer images that imply an intimate one-on-one relationship over those that show a social gathering.
- They referred to wanting to be in a “comfort zone.”

Responses to a set of motor vehicle ads:

- The young men tended to choose vehicles that have connotations of ruggedness and manliness.
- They are more attracted to images that connote freedom, power, and ruggedness than to luxury images.
- They choose images that connote escape or “getting away from it all.”

Responses to a set of traffic safety posters:

- The young men responded more to images that showed the terrible consequences of reckless or irresponsible driving.
- The image of a maimed person (with a message of tragic irony) was considered more powerful by two groups—an illustrated image of a wreck and a morgue was seen as more powerful by the other group.
- They responded more to strong messages with vivid images.
- Photographic realism was somewhat preferred over illustration.
- Humour was not seen to be an appropriate approach to the problem.

The responses to this last set are consistent with Dejong and Winsten’s observation that “focus group participants typically rate strong fear appeals as highly motivating and effective” (20). But, as discussed earlier, empirical research is mixed regarding their impact on behavioral change. However, the long range perspective from anti-smoking and dietary campaigns such as the “anti-red meat” effort is that fear appeals do seem to have long term utility for members of the population with a strong sense of self-preservation.

A point not discussed in the Frascara/Finn report on image testing is that the images selected by the respondents as their first and second choices were also the most visually attractive. They tended to be distinguished by an aesthetic of simplicity featuring high photographic quality. The preferred images tended to fill most of the viewing area with a large photograph with a single subject handled either close up or in a spacious landscape. Headlines were strong, but other type was kept to a minimum, and in each image a clear emotional mood or tone was established that could be “read” or understood as quickly as the verbal message. Color palettes were either reduced (i.e. black and white plus spot color) or muted.

d Overview of the design process

The design goals of a public safety communication campaign can be understood in terms of the criteria outlined in Victor Papanek’s *Function Complex* (page 8). Content, aesthetics, and process should all serve the objectives, or function, for which the communications are intended. In this context, solutions to the problem are essentially the result of the process.

The process for producing social communications for public media is somewhat more involved than for communications that typically fall within the sphere of commercial graphic design. In conventional graphic design the focus of the creative phase is often visual invention. Designers are generally hired by clients, at least in part, on the basis of a personal visual style that they bring to the work. For social communications the process is focused on audience testing since the “personal voice” of the designer is irrelevant if the audience can’t relate to the image or is unmoved by the messages. Visual style and detailing will, of course, play a role in the receptivity of the audience to the communications.

I have sketched an outline of the differences between conventional graphic design process and the process for designing social communications on the following pages. This thesis concludes at step 3d of the communication design process for mass media.

**Traditional Graphic Design
(Print Communications)**

- 1 Orientation**
 - a Briefing/meeting with client(s)
 - b Define parameters of project
 - c Set budget and schedule
 - d Write/sign contract
- 2 Research**
 - a Reading in client's problem area
 - b Gain familiarity with client's organization
 - c Visual search in problem area
 - d Review client's competition
- 3 Concept Development**
 - a Brainstorming on concept
 - b Many rough sketches of visual concept and design
 - c Evaluate ideas
 - d Select photographers, illustrators or other subcontractors
- 4 Design Development**
 - a Select idea and develop one or more rough mock-ups
 - b Refine and create one or more "comprehensive" mock-ups
- 5 Design Presentation**
 - a Formal presentation of ideas to the client(s)
 - b Secure approval to begin production or begin redesign for a second presentation
- 6 Design Detailing**
 - a Obtain text/manuscript
 - b Art direction/planning/props/casting for photographs
 - c Work out all unresolved details
- 7 Design Production**
 - a Shoot photography/commission illustration
 - b Type specification/typesetting
 - c Create keylines or compose datafile

**Design of Traffic Safety
Communications (Mass Media)**

- 1 Orientation**
 - a Select problem area
 - b Preliminary literature search
 - c Identify problem/identify target audience/focus
 - d Define project objectives
 - e Apply for research seed money
 - f Set research budget/schedule
- 2 Research**
 - a In-depth literature search in the area of traffic safety
 - b Plan and run focus groups
 - c Analyze focus group transcripts
 - d Write up report on focus groups
 - e Plan and design survey
 - f Pretest Survey
 - g Refine, retest, and print survey
 - h Mail survey/remainder cards
 - i Code returned survey responses
 - j Data entry/create data file
 - k Data analysis
 - l Write up report on findings from survey/conclusions
 - m Visual search/review popular culture of target audience
 - n Visual search/review features of automotive culture
- 3 Concept Development**
 - a Write communication objectives
 - b Develop umbrella themes
 - c Match communication objectives with safety content, communication techniques, tone, and creative elements
 - d Brainstorming/development of many rough concepts
 - e Evaluate ideas
- 4 Design Development**
 - a Select from sets of ideas
 - b Develop storyboard mock-ups
 - c Pretest storyboard mock-ups with target audience groups
 - d Refine and create sample videos

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- 8 Production
 - a Liaison with printer
 - b Presschecks
 - c Delivery
 - e Pretest sample video spots with target audience groups
 - f Refine or redesign and repeat
 - g Select media production subcontractors
 - 5 Design Presentation
 - a Present finished concepts to sponsoring organizations
 - b Pursue additional sponsorship for production and media placement
 - 6 Develop Campaign Plan
 - a Define campaign objectives (measurable target behaviors and audience change)
 - b Outline long-range plan, sequence, and timeline
 - c Develop campaign overview and media distribution plan
 - d Develop post-evaluation plan/ select broadcast city/control city/behavioral measures etc.
 - 7 Design Detailing
 - a Develop production plan, budget and schedule for first television spot(s)
 - b Hire media/film production subcontractors
 - c Refine first concept and script with subcontractors
 - d Art direction/planning/ propping/casting for first spot
 - e Work out all remaining details
 - f Coordinate media placement
 - g Design print collateral elements (i.e. newspaper ads, billboards) follow steps for print design process)
 - 8 Design Production
 - a Shoot film for first spot(s)
 - b Create audio as needed
 - c Editing and mixing
 - d Production for print collateral
 - 9 Evaluation
 - a Pretest survey+collision data
 - b Run campaign
 - c Posttest survey+collision data
 - d Evaluate campaign effectiveness

e Conclusion

This thesis concludes at step 3d of the process of “Design for Traffic Safety Communications”, but it is my hope that the material assembled in this paper may be put to use by individuals and organizations willing to take up the next stage—producing trial communications for testing with the target audience. We need to begin to confront the deadlier manifestations of North American automotive culture on its own turf and in its own language, a technique that may be useful for problems beyond traffic injury. Traffic deaths have declined somewhat in the past few decades as a proportion of total drivers on the road and miles traveled, but while this reduction is due in part to increased use of occupant restraints and better road and vehicle design, much is also owed to advances in modern medicine. Fewer people are dying, but too many survivors are having to learn to live with brain injuries, paralysis, permanent pain, and disabilities that alter their lives irrevocably, yet many of which could have been prevented had they or another driver driven within a different set of paradigms. It’s no coincidence that much of the pressure for increased effort and new approaches to traffic injury prevention is coming from the surgeons and other medical providers who work on this more agonizing side of the statistics. My hope is that coming from a discipline far from the source, but perhaps closer to the solution, we can make the leap of translating those goals into action.

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appendix a:

Investigation of research methodologies in the social sciences:

The question of validity in qualitative data collection

Data collection in the social sciences falls into two broad fields of activity defined as either "quantitative" or "qualitative" research. An individual researcher will usually start from one methodological position or the other, but the decision work from either will strongly affect the nature of the information gathered, the ways in which it's collected, and the uses to which it can be put.

Quantitative research methods are those that have as their primary objective the *measurement* of social phenomena and the expression of those phenomena in specific *mathematical values*. Qualitative methodologies are designed to *describe* social phenomena and express them as a set of *observations*. While quantitative research draws its theoretical values and models from the "pure" or natural sciences, qualitative research has its origin in the "soft" sciences, specifically the field of anthropology. A Gallup poll that uses sophisticated sampling techniques to express public opinion in percentages is a widely understood (and possibly misused) example of quantitative methodology. The methods of cultural observation used by Margaret Mead in her studies of Samoan culture are qualitative. Raw data collected by either quantitative or qualitative methods must be ordered and analyzed as a set of *findings* if the information is to be made meaningful in a broader context.

A major structural difference between qualitative and quantitative methodologies is the approach taken to defining "categories" for study, (or specific, identifiable relationships between objects and phenomena). Quantitative methods follow precedent established in the natural scientific disciplines by defining research categories as precisely as possible in *advance* of undertaking an actual procedure. The process involves constructing hypotheses or "expectations" which are then "proved" or "disproved" by the procedure. A primary goal of quantitative methods is to control the variables being studied to the greatest degree possible in order to achieve high levels of accuracy in the measurements. It is assumed at the outset of a quantitative procedure that categories for study will not change during implementation (McCracken, 16).

Qualitative methodology, on the other hand, assumes that categories for study will be identified *during* the procedure itself. Procedures are designed to yield branching results, multiple hypotheses, and to expose issues and interpretations that could not have been predicted prior to the investigation. Qualitative researchers assume that categories will *change* over the course of the study with the acquisition of new, unanticipated information. The qualitative researcher, therefore, looks for patterns of relationships between many categories rather than isolating and measuring individual phenomenal relationships. Quantitative methods are considered more effective for measuring the existence and prevalence of behaviors, whereas qualitative methods reveal the motivations behind the behaviors.

In "*The Long Interview*" (1988) Grant McCracken advises that when designing a research path quantitative research will nearly always be preferred by the scientific community over qualitative methods. They are perceived to be more verifiable and more statistically useful than qualitative studies, and are generally less time consuming and, therefore, less costly to implement.

"As a rule of thumb...the research manager should treat quantitative methods as the default method. The question to ask is this: 'Can I answer my questions using quantitative methods, or does the nature of my project require me to use qualitative methods?' The presumption of utility should always lie with the quantitative methods" (59).

On the other hand, the researcher should turn to qualitative methods when "he or she suspects that the issue at hand turns in some important way on the ways in which individuals conceive of, or construe their world" (59). This clearly applies to our investigation of 18-24 year old male drivers.

On the surface, quantitative methods have the greater weight of "apparent validity" in their favor. Filtering human social responses through statistical analysis is more reassuring from a traditional scientific perspective than a verbal analysis of verbal material gathered by a single researcher. But, issues of validity in both areas of activity are more complex than can be resolved by simple either/or decisions. I will discuss general issues of validity in social research before describing problems in individual data gathering methods, but clearly all methods involve unique problems of validity that must be balanced in setting research objectives.

Validity

Concerns about validity in social research reflect the ultimate objective of arriving at "truth" in one's findings. Truth in the social sciences is not the "absolute truth" of philosophy or metaphysics, but involves resolution of three traditional values from scientific inquiry—*precision*, *realism*, and *generalizability*—that are mutually exclusive in practice (Brinberg and McGrath, 43).

Precision in social research is defined in terms of the accuracy of the measurements taken and the degree to which a researcher is able to control situational variables in the research environment that affect behaviors and responses. *Realism/naturalism* refers to social context and the extent to which the environment in which data is collected reflects normal circumstances under which a particular behavior occurs. *Generalizability* refers to the degree to which data collected from individual participants in a sample are applicable to members of the larger population under study.

In most measurement situations these three values will cancel each other to some extent. Measurements are designed to maximize one, or at most two, of these research goals, but will always maximize one at the expense of another. Laboratory methods such as those used in experimental psychology will maximize precision by holding environmental influences constant during data collection, but do so at a considerable loss of realism in observing participants in their natural environment. Ethnographic observation in the field can yield a high degree of naturalism, yet lack both precision and generalizability to a larger population because of the limited ability of a single researcher to control situations or observe more than a few individuals in depth. Survey research may be highly generalizable to a population by virtue of a large sample size, yet fail to control the context in which data is gathered and variations in the way the material is interpreted by participants.

These limitations are inherent in the methods themselves and cannot be overcome by improving constraints in any one procedure. The limitations revolve around the issue of *scope*. Methods that pursue broader scope or applicability will be accompanied by higher levels of *noise*, or factors that pollute the clarity of findings. Methods that seek greater depth or precision will be more limited in scope. Researchers in both quantitative and qualitative areas increasingly advocate a pluralistic approach to data gathering to gain perspective from the competing attributes and limitations of individual methods (44).

Kirk and Miller in *Reliability and Validity in the Research Process* (1985) observe that models for ensuring validity drawn from the pure sciences have in recent years come under scrutiny in the social sciences. Most experimental and quantitative research is based on the hypothetico-deductive model whereby a well designed experiment confirms assumptions already held by the researcher. But in human research, social scientists have grown increasingly aware that "hypothesis testing is appropriate to only a small proportion of the questions they ask" (17).

Questions formed in the mind of a researcher about a study population will always be formed from the social perspective of the researcher and may embody assumptions that do not reflect the reality of the study population. In these circumstances it becomes irrelevant how precise a measurement is if the question being asked contains wrong assumptions. Qualitative methodologies evolved specifically to address this kind of error in social research. Qualitative research attempts to frame questions that make sense in relation to the world view of a study population by first identifying the components of that world view.

Kirk and Miller suggest that problems of validity in qualitative research are primarily problems of objectivity. *Objectivity* as they define it does not imply an objectification of subjects or isolation of their behaviors from the human context, but rather, implies a willingness on the part of the researcher to accept intellectual risk (10). The qualitative researcher adopts a posture whereby hypotheses are generated in order that may be proved wrong. The traditional confirmatory role of hypothesis testing in research contradicts the fact that many significant scientific discoveries of the past have occurred through accident or errors committed during methodological experiments. The qualitative researcher, therefore, intentionally enters into an study environment whereby unexpected events are sought and pre-existing assumptions are as likely to be proved wrong as right.

Objectivity in qualitative methods involves resolution of two traditional research questions—reliability, and the original question of validity (19).

Reliability in research is the extent to which the same results are achieved every time a procedure is implemented. Quantitative social science has relied heavily on reliability in measurements, notably through refinements in sampling techniques and retesting strategies, but the certainty with which particular answers are obtained does not confirm their correctness. (The analogy of a thermometer that consistently measures the boiling point of water at 82 degrees is drawn). Reliability assures that results are not accidental, but does not prove them valid. *Validity*, on the other hand, is the extent to which a procedure yields the correct answer. Most nonqualitative methodologies do not yet have systematic checks for validity.

Validity, as it is assessed in research, is of three types: apparent validity, instrumental validity, and theoretical validity. (Perfect validity is theoretically unattainable). *Apparent validity* is a seeming truth upheld by "the appearance of things", or something which by its prevalence is generally held to be true. *Instrumental validity* is a truth arrived at by alternate means in which the measure taken by an instrument *b* confirms measures taken by an instrument *a*. *Theoretical validity* is obtained by amassing sufficient evidence to suggest that the conceptual paradigm used to explain phenomena corresponds to observations.

In *Validity and the Research Process* (1985), Brinberg and McGrath examine issues of validity in relation to the entire research process. They consider that the social sciences in general have tended to attach too much importance to individual findings produced by individual methods, regardless of the precision with which the methods and appropriate verifications were applied. They suggest that validity in a study can only be assessed through examination of the original assumptions under which it was organized, and by careful analysis of the "fit" of interrelated choices made by the researcher regarding theory, methods, and the social phenomena under study to the stated purposes of the research (69).

Brinberg and McGrath further suggest that too little importance is attached to research failures as sources of useful information. They conceive the research process as a cumulative effort to *reduce uncertainty* with regard to a set of assumptions about specific phenomena, and consider that both confirmation and failure to confirm hypotheses are valuable contributions to the field. They observe that these failures are both under-reported and under-used in analysis of qualitative data and consider that significant gains in information are subsequently lost (127). This cumulative definition of research is what Kirk and Miller refer to when they propose that scientific "truth" emerges not as theoretical wholes, but as "incremental, partial improvements in understanding" (12).

It is now generally accepted that validity in qualitative research requires multiple methods of data collection, and comparison, or "triangulation", of findings across the methods. Validity also assumes a level of consciousness on the part of the researcher of his or her own biases with respect to academic theory, methods, and the social phenomenon under study. Central to the ability of researchers to exchange and examine findings meaningfully is the explicit statement in a published study of the theoretical and methodological assumptions under which a study is organized and the professional biases that the researcher brings to it.

Discussion of the data collection methods that follow reveals the different strengths and weaknesses of each with regard to issues of precision, realism, and generalizability to larger populations. These factors have specific implications for the nature and degree of validity that can be obtained from each method.

Participant Observation

Participant observation, or *ethnographic* observation, is the original qualitative data gathering methodology in the social sciences. The procedures that now characterize ethnographic research were developed early in this century by anthropologist Franz Boas during his observations of eskimo villages, and refined by students and colleagues including Margaret Mead, Ruth Benedict, and Bronislaw Malinowski.

The distinguishing feature of ethnographic research is the immersion of a researcher in the culture under study for a period of no less than one year. While the method originated with studies of other world cultures, similar principles are now being used in studies of organizations and institutions in western societies as well. The intent of the participant observation residency is that the researcher becomes deeply enough involved with the culture to discover how members of the culture think about, feel, and understand events in their world while staying far enough removed to objectively record the observations (McCracken, 8).

The researcher is the main instrument for data collection in ethnographic research. The skills required include an anthropological theory of culture, empathy, perception of social and cultural nuances, and the ability to discriminate between large patterns of behavior and idiosyncratic ones, as well as an ability to take notes, organize them, and condense them into coherent form for analysis.

There are three main theoretical branches in ethnographic research: holistic, semiotic, and behavioristic. The *holistic* position holds that elements of a culture cannot be isolated from the entire cultural context, and is concerned either with description and interpretation of individual cultures, or with the idea of defining universal properties of culture. The *semiotic* position holds that the objective of ethnographic research is to determine the meanings of cultural phenomenon and to determine how members of a culture understand the symbolic and organizational features of their world. *Behaviorism* in ethnographic research is concerned with the study of cultural particulars and often involves cross-cultural study of a single phenomenon (Sanday, 34).

Because of the commitment required of the researcher, participant observation research is the most expensive and time-consuming of data collection methodologies. Ethnographic data analysis has historically been subject to criticism of bias because it frequently derives from the experience of one observer and is viewed as especially subjective. Ethnographic research is now increasingly being performed by teams of researchers rather than individuals and may include other forms of data gathering and testing during the study to verify findings as they are gathered.

Focused group interviewing grew out of techniques developed by clinical psychiatrists for use in group therapy. The principal theory behind interviewing in groups is that people are willing to divulge more sensitive personal information in the security of a group of strangers than they are in a one-on-one conversation with an interviewer (Bellenger, 13). It has also been observed that since attitudes and opinions are naturally formed during social interaction, the group discussion provides an opportunity to observe actual processes of attitude formation. The primary benefit of focus group research is therefore perceived to be the dynamic of the group setting itself, especially with respect to studies where respondent attitudes are important to the researcher (Goldman, 44).

Focus group research is a controversial area within social sciences data collection. It is the primary method of qualitative research used in marketing, but is little used in the traditional branches of the social sciences. Both the benefits and disadvantages of the method for research purposes stem from the group environment in which data is drawn (Morgan, 12).

The principal benefit attributed to focus group research is that the presence of others encourages people to divulge experiences more spontaneously than they would in a private interview, (the analogy of anonymous travellers on a train is often drawn), and that the dynamic of group discussion sparks connections in the minds of participants that might not otherwise come out (much like the process of brain storming for idea generation). The group discussion also provides clues to participant's natural vocabularies on the subject since responses are usually less carefully formulated than in an interview. Where participant decision-making is important to the research question, the focus group can reveal the process by which people arrive at beliefs. People often cannot explain how or why they hold certain beliefs, but interaction with others in the group sometimes provides clues as to how they reason through abstract ideas and propositions.

Criticism of focus group research centers on the influence that the presence of others may have on responses offered in the group setting. Stronger speakers will influence comments by other group members to greater or lesser extents, and the opinions of one or two people if not controlled by the moderator can dominate a transcript. Focus group samples are so small (usually around 30-36 participants interviewed in three groups) that the results are not quantitatively significant although the testimony is often so vivid that researchers and clients are tempted to treat them as generalizable to the larger population.

It's important for a researcher to remain aware that everything a respondent says in a group setting is "self-reported" data (this is also true in private interviews).

In other words, people's responses will reflect what they want others to think they believe, (rather than what they necessarily truly believe), and in many cases will reflect what they may *want to believe*, but don't.

Validity in focus group research hinges on a clear understanding of what can and cannot be gleaned from the sessions, and on the "assumption that a measure really measures what it purports to measure" (Goldman, 46). There are well-defined standards for capturing "cleaner" data from a session, but validity in a study will depend more on the quality of the analysis for which there are fewer, and less clear guidelines.

The environment in which a focus group session is run is considered highly important to the quality of the results. The room in which the session is held should be as comfortable as possible. Livingroom-like settings are ideal; imposing, formal or laboratory-like settings are least desirable. There should be no obvious two-way mirrors or video cameras in the room, and if there are, respondents should be informed of them. Observation and recording should be as unobtrusive as possible. Focus group sessions are always audio tape recorded since respondents generally feel more certain that their anonymity is assured this way than they do in the presence of video.

The selection of participants is also considered central to assuring usable data. Group members should be recruited from as homogeneous a population as possible for the obvious reason that people will open up more to a group of strangers they perceive to be "like them" than with people from different backgrounds. Similarity in sex, age, and income tend to be the most crucial factors in ensuring a comfortable exchange within a group. Race is a factor only in locations where strong racial tensions exist.

The skill, preparation, and temperament of the moderator also influences the quality and reliability of data. The moderator must be able to convey objectivity, and ensure that any biases, whether personal or those of the research team are not expressed in the session. The moderator affects an attitude somewhere between empathy and detachment; he or she should seem pleasant and interested in all comments, but remain absolutely neutral as to the content of the discussion.

It's desirable that the sociographic profile of the moderator be similar to that of the group, although given the specialization of moderator training and the range of potential study populations, this is often difficult to arrange. If the topic under discussion is remotely sensitive it's imperative that the moderator be of the same sex as the group, since men and women talk differently among themselves than they do in mixed company and the objective is to capture a conversation between peers. If the moderator is of the opposite sex (and especially if that person is attractive), group members will perform for the moderator rather than talk among themselves.

It is also important that the vocabulary used by the moderator be comfortable for the group. Age and ethnicity can be factors if the group represents a highly specific segment of the population (Axelrod, 79).

The moderator should be well-prepared going into the session to ensure that important topics are covered in depth and to manage the dynamics of the group. It is the responsibility of the researcher (or research team) to provide the moderator with background information in the topic area if he or she is not already familiar with it. The researcher writes a thorough set of questions and research objectives to discuss with moderator days in advance of running the sessions. Research objectives should be reduced to one or two key questions that will open up various topic areas to be discussed by the group. The moderator should have this "script" of questions more or less memorized so that shuffling notes or cue cards is minimal. A group will not always wander naturally onto subjects that the researcher wants addressed so the moderator should be prepared to steer conversations toward these points without implying that particular responses are being sought. One of the benefits of group interviewing is that a sensitive issue can be raised by a group member and discussed at length that would be highly threatening if asked directly by the moderator.

Different levels of moderator involvement are appropriate for different research applications, but a low level of moderator involvement is generally preferred for social sciences research. Respondents should not feel that they are answering the moderator so much as talking among themselves. This atmosphere provides the greatest naturalism and richest interaction (Morgan, 32)

Questions can be introduced by the moderator that minimize self-presentation in respondents' remarks. These "projective questions" focus away from personal preferences (which will always be face-saving) and onto underlying assumptions through which attitudes and opinions are formed. Rather than asking "what do you think of this car?", the question "what kind of person would want to buy this car?" is more likely to reveal cultural categories and logic used by the respondent. "Deprivation questions" such as "what would you miss most if you were no longer able to..." can put respondents in a reflective mood and enable them to think abstractly about otherwise mundane topics. (Goldman, 46)

Opinions offered in isolation of context are dangerous, because a researcher never knows where and how the opinion was formed, or whether the opinion is truly held by the respondent. A technique for both verifying an opinion and stimulating discussion is occasional prompting with questions like "what experiences have you had that lead you to feel that way?" The more the respondents talk about actual experiences the richer the final transcript will be in categories and logical constructions (Axelrod, 56).

It is important, however, for a moderator not to "over-prompt", as people quickly learn that speaking up may mean being asked to divulge more than they're willing to share.

Methods of analysis of in focus group research are not as well documented as are standards for running the groups. Some researchers prefer to report only what was said and leave interpretation of the material up to the reader of the report. Others suggest that it is important to analyze "what happened" in the group as well as what was said. This approach includes exploring the character or tone of exchanges between participants and notation of topics that were avoided or dropped quickly and those that were pursued enthusiastically. Participant choices during the session reveal the salience of certain issues over others (Axelrod, 56).

Like other forms of qualitative data, information gleaned from focus group cannot be considered statistically significant. Focus groups are most often used in combination with other data gathering methods, especially where insight is needed into a new topic area from the perspective of the study population. Focus groups are used as exploratory tools for generating questions, categories, and appropriate vocabulary to be tested in quantitative questionnaires. They are also effective as early catalysts for flushing out ideas and assumptions that contradict conclusions from the literature.

The Interview

There are a number of different types of interviews in social sciences research that serve quite different purposes as information gathering tools. Three important versions are the "ethnographic interview", the "depth interview" and the "long interview".

The "ethnographic" interview is an intensive method from the field anthropology which depends on immersion of the researcher in the culture under study. The ethnographic interview takes place over a number sittings with the objective of achieving as much environmental "naturalism" as possible by allowing time for conversations with researcher to seem like a relatively "normal" part of the setting. Ethnographic interview data is descriptive of the cultural values and behavior of individuals within specific social structures and is often used to support participant observation techniques.

In sharp contrast, the "depth interview" is more akin to techniques used by clinical psychologists that yield a comprehensive psychographic profile of an individual. The process is primarily concerned with identification of the personality factors and affective states that cause specific behaviors in one person, and is not intended to be generalized to any class of subjects without mediation with other measurement tools.

The Long Interview

The "long interview" is a more economical form of "ethnographic" interview designed for use by researchers working within their own cultures. Because the long interview yields data about cultural categories, values, and meanings and because it is less expensive to complete than ethnographic studies, inclusion of the method in a "next phase" of our own driver behavior study would be valuable. Interviews with individual participants can serve as an important balance to focused group interviews in that they eliminate the influence of other people on a respondent's testimony.

Members of North American and European cultures lead private lives, and most people will not, or cannot, agree to being observed or interviewed for extended periods of time. It is extremely difficult for a researcher to enter the workplace for interview purposes, and it is always a delicate procedure to gain access to a private home. Time constraints further prevent people from being able to commit to lengthy participation in a study, even when the privacy barrier has been bridged.

The long interview, as defined by Grant McCracken in *"The Long Interview"* (1988), provides a structure for revealing the mental world of individuals within a particular culture. The technique is intended to expose how a person defines events and objects pertaining to the topic, understands his or her experiences with it, and reveals the logic by which decisions and choices are made.

The long interview allows enough time to be spent with the respondent (six to eight hours broken into two sittings) for primary constructs to be exposed without unduly taxing the respondent. Planning methods are employed that enable the researcher to recover key data economically from the large amount of raw material collected.

Preparing for a long interview study, like all research, begins with an extensive literature search. The researcher becomes familiar with existing assumptions about causes of behavior in the subject area and makes lists of categories for investigation. From potential categories the researcher identifies areas which might be expected to yield greatest insight into how the respondent actually understands the issue.

Using the literature review as a base the researcher should systematically examine his or her own experiences with the topic, making note of personal definitions and assumptions about the issue and formulating a set of unanswered questions. The researcher creates a preliminary set of expectations about what the respondent's views might be with the understanding that they may be strongly contradicted during the interview phase.

The next step involves writing a questionnaire to use as a template for the interview. The long interview questionnaire differs considerably from those used in door-to-door and telephone surveys. Rather than a list of carefully worded questions to which a respondent supplies answers for comparison with those of other respondents, the long interview questionnaire is a flexible series of open ended questions and supplemental prompts. It functions like a "guidebook" for a journey into the respondent's thought processes about the topic. The long interview is not concerned with sample size and seeks to obtain depth of information from only a few respondents (usually around eight). In contrast to focus group research, which assembles as homogeneous a group as possible, the long interview study seeks respondents with very different profiles from within the identified population.

The questionnaire begins with short biographical questions to give the respondent an opportunity to become comfortable with the interviewer and the process and to clarify precisely whom is being interviewed at the head of the transcript. The interviewer should establish a relationship with the respondent that strikes a balance between personability and professionalism. If too much rapport is created the interview will lose its focus on the respondent's testimony and the respondent will attempt to engage the interviewer in a two-way conversation, try to please the interviewer, or withhold potentially embarrassing data as would be typical in a newly formed friendship. If too much professional distance is established the respondent will be reluctant to reveal experiences or personal thoughts and may simply try to get through the interview in a face-saving way.

The respondent will naturally try to analyze the interviewer, even as he or she is being interviewed, and will assess the level of personal risk involved. It should be clear at the outset that the interviewer is a neutral, pleasant person who willing to listen with interest to everything that the respondent has to say without judgement. If a comfortable tone is established, respondents often find the process stimulating and will take the opportunity to fully express themselves without fear of ridicule or social consequence.

The way in which questions are posed is central to the quality of the interview data. The purpose of the interview is to allow the respondent to tell the story in his or her own terms, and the interviewer must take care to record logic and categories as they are supplied without imposing interpretations on the experiences being reported. The questioner should *not* engage in "active listening" (a technique used in counselling and analysis), whereby the listener restates in other words what the speaker is saying. Any commentary by the interviewer can influence the direction and character of the respondent's testimony. The interviewer should "play dumb", asking only for more depth or clarification such as "can you tell me more about that?" or, "what do you mean by the word _____?"

The interview consists of a few large questions which the respondent is encouraged to talk about at length. Once a principal question is asked the interviewer's role becomes one of administering prompts that keep the respondent talking in ever greater depth, but in the general direction of the questionnaire. Prompts consist of non-verbal signals of acknowledgement such as raised eyebrows, nods, or sounds that register interest and comprehension and keep the respondent talking. The researcher must stay alert to the narrative paths a respondent chooses when making a point and judge whether the dimension is unproductively off the topic or a unique way in which the respondent constructs logic.

In formulating questions the researcher accepts that respondents sometimes have difficulty explaining actions or behaviors that are so habitual that they have never had cause to be introspective about them. Questions about unusual events in the area of the topic often have a revelatory effect. Skillful questions and prompting can cause the respondent to view an experience in an entirely new way while reporting it, thus enabling the interviewer to record the process by which the respondent assigns meaning to the event.

In the prompting process the interviewer can lead the respondent toward deeper definitions of categories with "contrast questions", e.g. "what is the difference between X and Y?" It is important for the interviewer to know in advance what must come out of the interview and to prompt for it without influencing the response.

The Survey Questionnaire

The survey questionnaire is a *quantitative* data gathering instrument, not a qualitative one, but it is frequently used in combination with qualitative methodologies to verify findings of many kinds. The usual reason for including a survey in a qualitative study is to measure the degree to which assumptions formed during contact with a small sample can be generalized to a larger population.

Statistical methods for analyzing survey data have grown increasingly sophisticated, but issues of validity in survey research usually do not bear on analysis, but on the wording and presentation of the questionnaire itself—in other words, where the methods collide with human factors in quantitative data.

There are basically two kinds of questions in survey research—those that deal with facts or behaviors and those that pertain to attitudes or psychological states. In principle, facts or behaviors are *verifiable* because they can be "observed". However, the notion of tracking a large sample of respondents in order to observe reported behaviors would be absurd in practice, especially if the behavior were a private one. Questions about attitudes or psychological states, on the other hand, are inherently *unverifiable* because they cannot be "observed". The problem then for the survey researcher is to be able to establish with some confidence that answers supplied by respondents are "true" (Sudman, 19).

"Truth" in survey data is vulnerable to a range of sources of human error that can be organized under three questions.

Has the respondent answered truthfully?

Does the response truly represent how the respondent thinks or feels?

Has the respondent interpreted the question correctly?

These questions will be taken up independently and then addressed in more detail in relation to specific problems in survey writing.

Has the respondent answered truthfully?

People are by and large willing to participate in surveys and some even enjoy the opportunity for self-expression if the task is not too burdensome and if they do not perceive that the information they divulge will put them "at risk" in terms of loss of face, loss of privacy, or legal consequences. If risk is perceived, especially in door-to-door or telephone surveys where respondents may feel social pressure to appear cooperative, they will simply make up an answer or supply a false one to minimize the risk (Sudman, 4).

Often respondents do not have enough information to answer a question truthfully. As Converse and Presser state in *Survey Questions: Handcrafting the Standardized Questionnaire*, (1986, 24) "The information base of the average [respondent] is abysmally low". If the respondent genuinely doesn't know the answer to a question there will be pressure to make something up so as not to appear uninformed. In other circumstances people fail to remember a correct answer and will either supply one they think is close or give one they believe to be correct, but isn't. In either case the answer is invalid, but errors of this type are extremely difficult to detect.

Does the response truly represent how the respondent thinks or feels?

If the question has to do with attitudes or opinions the respondent may not have formed an opinion on the topic at the time of the survey, but will supply one anyway. People occasionally give a response they think an interviewer wants to hear or one that they think will be more socially acceptable than the attitude or opinion they actually hold. In some cases people offer opinions they would *like to think they hold*. All of these responses are similarly invalid (Sudman, 6).

Has the respondent interpreted the question correctly?

A common form of error occurs when a respondent interprets a question differently from the way the researcher intended it to be understood. The response in this situation is completely truthful from the respondent's point of view, but is invalid because he or she really answered a different question (Platek, 34). This type of error is almost impossible to identify in final survey results.

A primary objective of questionnaire design is to take advantage of people's natural willingness to share information by making the survey a pleasant experience, but to minimize the possibility that they will falsify answers or otherwise answer incorrectly. Asking questions

A number of guidelines have evolved during the last 50 years for minimizing error in standardized surveys. Converse and Presser stress in *Survey Questions: Handcrafting the Standardized Questionnaire* (1986) the values of clarity, simplicity, and intelligibility in writing a good survey that it not burden the respondent. They observe that questionnaire writers are usually highly educated and deeply involved in the jargon and academic minutiae of a topic area. It is extremely important for a researcher to step back from the process and view the topic and the survey from the respondent's point of view. First drafts are usually too long, too wordy, and include tasks that are too complex for a respondent to want to negotiate on volunteer time (9).

The best way to eliminate the most common source of error, a misunderstood question, is to use simple language that is used by most people in a population. The vocabulary should be as basic as possible, i.e. "don't say 'principal' when you can use 'main'". The researcher should be sensitive to the way questions are asked in normal conversation without being too familiar or using slang. People are quick to recognize artificially casual tones, especially in official-looking documents, but wherever a correct grammatical construction sounds too stiff, a choice should be made in favor of less correct, but more natural phrasing (9).

A means for detecting whether people have guessed at answers, misunderstood them, or made choices that don't reflect their true thoughts or values, is to build several differently worded questions on the same topic into the questionnaire for cross-checking. Conflicting answers on questions that the researcher believes to ask the same thing are a clue that something is amiss.

Another tactic is the use of "don't know" or "I feel neutral" categories that give the respondent the option to state that he or she either doesn't know or hasn't formed an opinion on the subject as an alternative to guessing or making up answers. Researchers disagree on whether the neutral category is necessary or not. Some consider that forcing people one direction or the other on opinion surveys is more valuable than allowing them to hug the middle without committing. Others feel it's more significant to know that the respondent holds no strong feelings about a topic than whether they lean slightly more one direction than another.

A common first-draft error in question design is the "double-barreled" question, or a question that has two parts to it that the researcher has lumped together. Double-barreled questions usually harbor the words "and" or "or" in ways that the researcher may not be alert to, e.g. "which source do you use most for news and information?". (News and information are two quite different things although they are often used together in media jargon). Use of double-negatives is also to be avoided; in other words, the word "not" should not be used (Converse, 13).

Another problem in survey results is the tendency of people to agree with statements just to be agreeable. This problem increases as income and education levels drop. To combat this tendency it is important to make clear both sides of agree/disagree questions. "Do you agree with the Prime Minister's economic policy?" will draw more agreement than if "or not" is added to the question. Agree-disagree questions should generally have some kind of intensity scale built into the question or immediately following. People prefer to have more than two or three choices when expressing opinions and determining whether opinions are strongly or weakly held is usually central to obtaining a meaningful analysis of the data.

Closed-ended vs. open-ended questions

A major decision to be made in survey design is when and where to use open-ended rather than closed-ended questions. *Open-ended questions* are those for which no predetermined choices are provided; the respondent is free to offer whatever comes to mind in response to the question. *Closed-ended questions* are those for which "closed" categories or choices are prepared from which the respondent is asked to choose. Open-ended questions are associated with qualitative inquiry; closed-ended questions are more suitable for quantitative measurement (Platek, 58).

There are advantages and disadvantages to use of either open-ended or closed-ended questions that are largely determined by the purpose of the question and the uses to which the gathered data will be put.

The *advantage* of open-ended questions is that the format does not place boundaries on the possible responses a participant may give. The respondent cannot "guess" at an open ended-question and the response usually reflects what the respondent considers most salient in the topic area. An open response usually offers insight into how the respondent feels and reasons about the subject under discussion.

The *disadvantages* to open-ended questions are that they place more burden on the respondent than closed questions and are much more difficult to code and analyze statistically. Open-ended questions can offer an opportunity for self-expression, but the time and involvement factor may just as easily turn a respondent off. This is especially true in mail surveys where writing tasks may be perceived to be too difficult, or too time-consuming, and the respondent will simply refuse to finish the survey. Reticent people will be less inclined to answer at length than outgoing people although they may be just as knowledgeable. Colorful responses will attract more attention during analysis than more ordinary accounts, though they may be no more significant, and can bias the conclusions. Coding open responses for analysis is often tedious and requires judgement and familiarity with the research plan on the part of the coder. Use of a coding process also implies that open responses can be analyzed statistically like closed-ended responses which may not be true.

The main *advantage* to closed-ended questions is that they are easy to code and tabulate and assuming that validity problems have been resolved in the writing process, can be analyzed statistically. All respondents in a closed-ended survey answer the same questions and choose from the same set of responses, eliminating bias that may come from vividness of testimony. Closed questions will often offer a range of responses people find easy to choose from, but which they would have difficulty supplying answers for in an open format.

The chief *disadvantage* to closed-ended questions is that the format assumes that the question writer will be able to provide categories for all appropriate answers. If respondents cannot find categories to fit their true responses they will leave the question blank, write something in the margin, or choose another answer that really doesn't match. All of these choices produce invalid responses.

Closed-ended questions also lead respondents to frames of reference that may not reflect their usual orientation to the topic. It's essential when designing closed-ended questions that contact be made with the study population to determine the kinds of categories they use to discuss and evaluate phenomena in the topic area. Qualitative inquiry such as focus group interviewing can provide valuable insights for writing closed-ended questions (64).

A fairly standardized process exists for planning and designing questionnaires that helps researchers identify and deal with validity issues in advance of final printing and administration of the questionnaire.

The first step is to define the research problem and identify key information gaps remaining from the literature search. Planning begins with the following questions:

What is the problem I'm trying to solve?
What must I know to solve this problem?
How will I use the information once I get it?
How accurate does the information have to be?
(Sudman, 22)

The remainder of the design process can be outlined as follows:

1. The researcher states expected uses of the data
2. The researcher states the need for the information in relation to specific research objectives
3. The researcher writes a schedule and negotiates resources
4. The researcher determines the composition of the research team ideally including individuals with background mixed disciplines, especially in sociology, statistics, the behavioral sciences and those with practical experience in the topic area; research team agrees on study objectives, acceptable levels of data quality, sample size, etc.
5. Review of literature on existing questionnaire designs used in similar studies
6. Draft initial questions, share and discuss with colleagues, meet and pretest with groups similar to the study population for language, comprehension and logic
7. Write and format survey—questionnaire designer plans logical groupings
8. Share with colleagues, rewrite, edit and refine draft questionnaire

9. Pretest questionnaire with sample study population
10. Rewrite, edit and refine pretest questionnaire
11. Assign codes to specific questions
12. Produce and administer final questionnaire
13. Decode open questions and prepare data for analysis
14. Statistical analysis
15. Analysis by researcher for drawing conclusions
16. Publication of research findings
17. Observation of problems noted along with recommendations for future questionnaires (Platek, 19)

Several features that are common to most questionnaires are best handled by following well established practices.

The introduction

A survey should always be preceded by some kind of introduction, whether spoken by an interviewer or in the form of a letter mailed with a survey. The introduction should clearly state the purpose of the research and tell the respondent how results from the survey will directly benefit him or her, ie., through increased social welfare. Ethical issues arise at this point. Ethical standards require that the respondent be given enough information about the purpose of the study and uses to which data will be put to make an informed decision whether or not to participate. Assurances of confidentiality should be included at this point, but only to the extent that confidentiality can be guaranteed. The amount of information given to the respondent about the purpose of the study is generally proportional to the "risk" incurred in supplying the requested information (Sudman, 9). The introduction can be a key factor in influencing the respondent's willingness to take the time (or assume the risk) to participate.

Demographic material

A certain amount of demographic or sociographic information about the respondent is usually required to analyze collected data meaningfully. If the survey is administered by an interviewer, a set of non-threatening autobiographical questions can be used to open the survey. This permits the respondent to become comfortable with the process and establishes some descriptive personal data up front. However, demographic questions that are in any way threatening should come at the end of the survey. Questions about income, marital status, age, and religion are perceived by some people to be highly personal, and if they appear too early in the sequence of questions they may refuse to finish the questionnaire. Respondents may choose not to answer sensitive questions that come at the end, or will lie about them, but at that point all other pertinent questions

have been answered. Ending a survey with a quick set of demographic questions will usually seem easy and come as a relief to respondents who have just finished more time-consuming or difficult questions (Converse, 63).

Flow of the questionnaire

There are certain established guidelines for planning and designing the flow of questions in a survey that make the task easier and more pleasant for the respondent.

The questionnaire should begin with questions that are easy and fun. If initial questions are difficult or boring the respondent will lose interest and quit. Questions should move from the general to the specific like the natural flow of questions in a conversation, and be arranged in logical groupings. If respondents perceive that questions jump around or observe illogical patterns they may grow annoyed, suspicious, or fatigued anticipating what comes next. Questions of a particular type or within a similar topic area should be grouped together and introduced with a brief unifying statement. Instructions for each section must be absolutely clear.

The layout of printed, self-administered questionnaires should be as clean, professional-looking, and as easy to fill in as possible. Printed surveys are best folded and saddle-stitched rather than stapled at a corner since the format is simpler for the respondent to manage and seems less imposing. Pages in this format can be easily flipped and scanned before the respondent begins the questionnaire. Multiple choice options to a question should always be aligned vertically since horizontal arrangements cause confusion as to whether boxes precede or follow an answer. The printed survey should contain as few pages as possible, ideally no more than four for a mail survey. Crowding questions together to save space is not a good alternative, however, since dense pages will make the survey look more difficult to complete than a spacious one with more pages (Platek, 93).

Finally, the questionnaire should always end with a statement of thanks.

Less has been written about methods of analyzing qualitative data than about its capture. Textbooks on qualitative methodologies typically devote fewer than 5-10% of their pages to discussions of analysis and many completed studies are published without a detailed reporting of the methods used during data analysis (Miles and Huberman, 16).

Qualitative research is obviously much younger and more controversial than research in the physical sciences, but its origins in anthropology have left analysis largely up to the individual researcher. The tradition has been subjective to the point that some in the field have declared qualitative analysis an "art" that cannot be learned (16). In relation to problems in qualitative analysis Mathew B. Miles states that

"The most serious and central difficulty in the use of qualitative data is that methods of analysis are not well formulated. For quantitative data, there are clear conventions the researcher can use. But the analyst faced with a bank of qualitative data has very few guidelines for protection against self-delusion, let alone the presentation of unreliable or invalid conclusions to scientific or policy-making audiences. How can we be sure that an "earthy", "undeniable", "serendipitous" finding is not in fact *wrong*?" (Miles, 1979)

Nevertheless, researchers agree on certain points that are central to shared notions of quality in analysis. These include:

- thorough, methodological systems for data transcription
- methodical data review and sorting
- reduction of data
- separation and analysis of key ideas
- display of phenomenal relationships
- elegance of summary

Researchers agree that a point of great importance to guaranteeing accuracy and validity in analysis is the creation of an accurate transcript. Physical transcription of interview tapes should be done by a professional typist or transcriber. The researcher should not perform this task since over-familiarity with the material and conscious or unconscious self-editing can lead to error.

Grant McCracken, author of *The Long Interview* (1988), describes in detail a five-step data analysis process for organizing the raw material of data collection. The process is akin to other "intuitive" systems of analysis and is applicable to most qualitative research problems. McCracken stresses creation of a "paper trail" during analysis—a

visible record of the sorting and evaluation decisions one makes that permits another scholar to retrace the thought processes that lead to conclusions. This physical record is crucial to ensuring that the study can be cross-checked by others for reliability and validity.

In the first phase of analysis the transcript is read objectively with no attempt to link ideas or generate interpretations, but with a conscious eye for significant "utterances". These remarks are visually or physically separated from the body of the text. The *utterances* are studied in relation to the immediate context in which they appear in the transcript without reference to other concepts or statements. The researcher lists all possible meanings that could be implied by each individual statement, i.e. "what else could the respondent be saying here?" Utterances become surrounded by branching notations of possible meanings associated with the statement. During this phase the researcher exercises discipline in not jumping to conclusions about the larger significance of the utterances.

In this first phase of analysis the researcher should take metaphors at face value. Common metaphors that the respondent doesn't necessarily think about when speaking, often have their origins in physical experiences that, in fact, shape the way the respondent views or attaches later meaning to an experience.

"When the respondent speaks of being 'blasted,' it is worth taking this figure of speech at its face. Is the person violently and suddenly destroyed by heavy drinking? Plainly not. Well, is the social person in some sense so destroyed? Perhaps so." (McCracken, 44)

In the second stage of analysis the researcher begins to match utterances in the transcript with concepts from the literature review to form a set of *observations*. Using existing ideas about behavior in the topic area, the researcher compares utterances from the transcript against existing assumptions to see where the data conforms to established thinking and where it doesn't. The researcher makes notes about the ways in which the data confirms and contradicts earlier studies. At this stage the researcher also compares isolated utterances against other utterances in the transcript for consistency and contradiction in the respondent's testimony.

In the third stage the researcher explores relationships between utterances with an emphasis on observations made in the second stage. Actual utterances become less important than observations and the possible meanings drawn from them. At this point a *field of patterns* in the respondent's constructed world should become apparent.

In the fourth stage the researcher begins to make judgements. Major *themes* are identified and relations between themes noted. One or two primary themes are established under which all other points are organized. These first four steps are completed independently for each interview conducted in the study .

The fifth and final stage involves the formation of a thesis by comparing relations between themes identified across the interviews. The thesis becomes the set of *conclusions* for the study.

Miles and Huberman in *Qualitative Data Analysis* (1986), describe a large number of similar paths of analysis for specific types of applied problems in qualitative research. Their methods are designed for larger studies that include multiple-member teams working across numerous research sites with an emphasis on problems in ethnographic data. These methods are designed to ensure that all members of the research team follow roughly the same procedures for sorting, coding, and signifying data, and that reporting of interim conclusions occurs throughout a project.

Miles and Huberman have made a significant contribution to the area of qualitative analysis by advocating data display techniques as fundamental tools for discovering relationships within collected data. The traditional narrative format for reporting qualitative observations and conclusions is cumbersome and tends to bury phenomenal relationships in descriptive detail. By forcing analysis to assume simplified, visual expression through matrices, diagrams, and charts and other means of display, researchers can quickly ascertain significant relationships in material gathered during field work. The resulting compact diagrams are also easier to read quickly, comprehend, and store, a factor that makes them more accessible to others working with similar problems.

Conclusion

A survey of data collection methodologies in marketing and the social sciences quickly reveals that questions of validity and objectivity are primary concerns for anyone seeking information directly from a study population.

Validity can be considered to be the degree to which research findings truly reflect the perspectives of the group under study with respect to a particular phenomenon. Objectivity refers to the extent to which a researcher acknowledges theoretical and cultural biases he or she brings to the process of inquiry and potential and inherent limitations in one's methods.

Establishing validity in a study involves recognition that every data collection method has specific benefits and limitations with respect to the kind of information it can yield. A primary goal of all research is to maximize certainty regarding the *precision*, *naturalism*, and *generalizability* of findings, but it's clear that any method will maximize only one or two of these values at a time, and will always do so at the expense of the third. Given the inherent limitations of individual methods the best way to ensure that results of a study reflect what they are intended to reflect is to approach data collection from multiple angles, using methods that complement each other in strengths and weaknesses.

Data gathering methods are of two primary sorts driven by two different research questions. *Quantitative* methods measure the degree to which attitudes or behaviors are manifest in a study population. *Qualitative* methods reveal the psychological, social, and cultural motivations that underlie them. While quantitative methods have been used more extensively in social sciences research, quantitative methods are increasingly being used to frame and define questions for quantitative measurement.

Since the purpose of the present study of 18-24 year old male drivers is to identify the attitudes and motivations that most strongly influence specific decisions they make while driving, we have determined from the beginning that a qualitative investigation is most appropriate to our problem. We identified focus group research as a starting point because of the advantages of group interviewing for flushing unanticipated connections and values, and for revealing the vocabulary and manner in which members of the group converse with each other about driving. We recognize that comments gathered in the group environment will be strongly characterized by self-presentation, but consider this information valuable in itself. How young men relate their driving experiences to others strongly reflects how they want to be perceived as drivers, and subsequently the values and perceptions they hold with respect to driving culture.

We consider the focus group results an important foundation for further identifying significant attitudes and behaviors among young adult male drivers that contribute to their over-representation in fatal and injury producing motor vehicle collisions.

Isolating these attitudes and behaviors enables us to begin to match specific driver errors with particular cultural beliefs in order to create messages that have implications for new kinds of behavior role-modeling with respect to driving.

We recognize that results from these initial focus groups are not generalizable to the general population 18-24 year old male or to specific higher-risk groups within that population segment. We have begun to design an survey instrument for quantitative verification of attitudes brought to our attention in the focus group discussions. We also consider that conducting long interviews with individual members of the study population would reveal different, more personal perspectives in greater depth and freer of group influences than responses gathered in focus groups.

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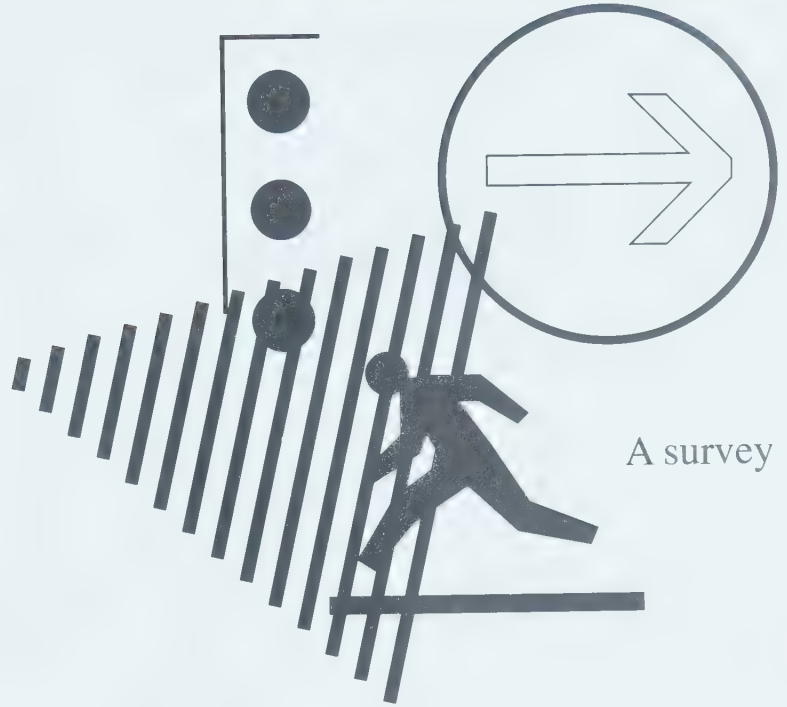
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appendix b:
The Driving in Alberta Survey

Driving in Alberta



A survey

*A survey about driving in Alberta
from the Alberta Motor Association
and the University of Alberta*

Media and Recreation

- 1 Which do you consider your most important source for daily news? (please mark only one choice)

Television	Radio	Newspaper	Magazines
☐	☐	☐	☐

- 2 Which source do you use most for leisure or entertainment? (please mark only one choice)

Television	VCR	Radio	Magazines/books
☐	☐	☐	☐

- 3 Which kinds of television programs do you normally watch during the week? (please mark a choice for each kind)

	Favorite	I also like	It's O.K., I watch it	I dislike it and try to avoid it
Police/detective/action	☐	☐	☐	☐
Situation comedies	☐	☐	☐	☐
Made-for-TV dramas	☐	☐	☐	☐
Music/entertainment	☐	☐	☐	☐
Educational/documentaries	☐	☐	☐	☐
Science fiction/fantasy	☐	☐	☐	☐
Sports	☐	☐	☐	☐
News	☐	☐	☐	☐
Game shows	☐	☐	☐	☐
Talk shows	☐	☐	☐	☐
Soap operas	☐	☐	☐	☐
Movies	☐	☐	☐	☐
Other _____	☐	☐	☐	☐

- 4 My favorite TV show is _____

- 5 Which, if any, of these newspapers do you look at at least once a week? (please mark all circles that are true for you)

	News	Sports	Lifestyle	Entertainment	I don't read this paper weekly
Edmonton Journal (Mon-Thurs)	☐	☐	☐	☐	☐
(Fri-Sunday)	☐	☐	☐	☐	☐
Edmonton Sun (Mon-Thurs)	☐	☐	☐	☐	☐
(Fri-Sunday)	☐	☐	☐	☐	☐
Globe and Mail	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐

- 6 What magazines, if any, do you look at at least once a month?

What things do you like or look for in these magazines?

Driving Experiences

7 Which of the following best describes the area where you live? (*please mark only one circle*)

- ☐ City
- ☐ Suburbs
- ☐ Small town
- ☐ Rural

8 Roughly how much of your total driving (*what percentage*) do you do in each of the following kinds of areas?

- ☐ City _____ %
- ☐ Suburbs _____ %
- ☐ Small town _____ %
- ☐ Rural _____ %
- ☐ Highway _____ %

9 Roughly *what percentage* of your weekly transportation needs are met by each of the following?

- ☐ Car, truck, or van _____ %
- ☐ Motorcycle _____ %
- ☐ Walking _____ %
- ☐ Bicycling _____ %
- ☐ Bus or cab _____ %
- ☐ Other _____ %

10 Which of the following best describes the way you learned to drive? (*please mark only one circle*)

- ☐ High school driver education program
- ☐ Lessons through a driving school
- ☐ Lessons from a friend or relative
- ☐ Essentially self-taught

11 How old were you when you started learning to drive? _____ years of age

12 How old were you when you got your driver's licence? _____ years of age

13 Have you taken any additional driver training since you got your licence?

- ☐ No
- ☐ Yes (If yes, what type?) _____

14 How many vehicles have you owned?

- ☐ None
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6 or more

15 What is your preferred vehicle for everyday use?

Why did you choose this vehicle?

16 What is your dream vehicle?

Why would you like to own it?

17 If you listen to music or information while driving, what do you listen to most? (please mark only one choice)

radio news/talk	radio music	stereo/tapes	stereo/CD
☐	☐	☐	☐

18 If you listen to the radio or stereo, what percentage of your driving time do you have it on? (mark one choice)

almost always (100-81%)	quite often (80%-51%)	sometimes (50%-21%)	almost never (20%-0%)
☐	☐	☐	☐

19 If you listen to the radio or stereo while driving, how loud do you prefer to listen? (please mark only one choice)

very loud	loud to medium	medium to soft	very soft
☐	☐	☐	☐

20 For each of these statements about driving mark the circle that best matches your feelings about the statement. (please mark one circle for each)

	strongly agree	agree	disagree	strongly disagree
Seatbelt laws go against your personal freedom.	☐	☐	☐	☐
Generally, I think men are better drivers than women.	☐	☐	☐	☐
Having demerit points on your licence means you've been pulled over, but they don't reflect your true driving skill.	☐	☐	☐	☐
Drunk driving is the most serious driving problem in Alberta.	☐	☐	☐	☐

21 The thing that makes me most angry about other drivers on the road is...

22 For each of these statements about driving mark the circle that best matches your feelings about it.
(please mark one circle for each)

	is nearly always true for me	is often true for me	is seldom true for me	is not at all true for me
For me, driving is a real pleasure.	☐	☐	☐	☐
It's important to me to observe all traffic laws.	☐	☐	☐	☐
I'd rather drive alone than with other people in the car.	☐	☐	☐	☐
Driving is something I like to do for fun in my spare time.	☐	☐	☐	☐
When I'm driving with someone I want to impress I try to look for ways to show my skill in handling the vehicle.	☐	☐	☐	☐
I enjoy the thrill of driving fast.	☐	☐	☐	☐
Having friends in the vehicle when I drive is distracting.	☐	☐	☐	☐
If someone driving in front of me is going too slow and I can't pass, I let them know I want to get by	☐	☐	☐	☐
Driving on snow and ice is a challenge I look forward to.	☐	☐	☐	☐
I drive faster when friends are with me than when I drive by myself.	☐	☐	☐	☐
When I approach an intersection and the light turns yellow I usually try to get through it.	☐	☐	☐	☐
I usually drive the speed limit.	☐	☐	☐	☐
There are things I do when I drive that I know aren't exactly "legal" or "by the book", but I do them because they make sense.	☐	☐	☐	☐
I'd rather be a passenger in the car than the driver.	☐	☐	☐	☐
I enjoy taking risks when I drive.	☐	☐	☐	☐

People have many different views about driving. Please mark the circle in front of the statement that you feel best completes the sentence for you.
(for each statement please mark the one answer that is closest to how you feel)

- 23 When I'm driving and have friends in the car it's most important to me that they think...
- ☐ I have good reflexes and driving skill
 - ☐ I'm not afraid of other drivers
 - ☐ I respect other driver's rights of way
 - ☐ I know how to get where I'm going
- 24 The thing women like most in a man when he's driving is...
- ☐ he can drive fast without losing his nerve
 - ☐ he can really maneuver the car in heavy traffic
 - ☐ he doesn't take risks in the vehicle
 - ☐ he can keep up a good conversation
- 25 The thing I want my vehicle to say most about me is...
- ☐ I'm a common sense person
 - ☐ I'm someone who likes to have fun
 - ☐ I'm someone with a sense of style
 - ☐ a vehicle doesn't really say much about the owner
- 26 A good driver is someone who...
- ☐ is confident and skilled in handling the vehicle
 - ☐ stays alert to the driving situation
 - ☐ obeys all posted speed laws
 - ☐ leaves enough room for error between his vehicle and other vehicles on the road
- 27 The thing I would miss most if I could no longer drive would be...
- ☐ going places I can't get to except by driving
 - ☐ getting places faster than by other forms of transportation
 - ☐ opportunities to get together with the opposite sex
 - ☐ the kicks I get from just driving around
- 28 The most important thing to a woman about the vehicle a man drives is...
- ☐ power and handling
 - ☐ economy
 - ☐ style and appearance
 - ☐ safety factors
- 29 The closest thing to my ultimate driving fantasy is...
- ☐ a trip across North America with great music, cash, and no schedule
 - ☐ the Autobahn in Germany at 200 kph
 - ☐ driving with an attractive member of the opposite sex
 - ☐ sprouting helicopter wings during rush hour
- 30 Please rank the following things in order of their importance to you in avoiding accidents while driving.
(write #1 for the answer most important to you, #2 is next most important, #3 is less so, #4 is least important)
- Good handling skills and reflexes
- Courtesy to other drivers
- Following the rules of the road
- Alertness to other drivers

31 What is your age? _____

32 What is your sex? _____

33 What is your present marital status?

- ☐ Single, never married
- ☐ Married, first marriage
- ☐ Married, have been married before
- ☐ Widowed
- ☐ Separated
- ☐ Divorced

34 Do you have children? ☐ No ☐ Yes If yes, how many? _____

35 What is your present employment status?

- ☐ Employed full time
- ☐ Employed part time
- ☐ Temporarily unemployed, retired, or disabled
- ☐ Full-time student
- ☐ Part-time student

36 If employed, what is your current job or occupation? _____

37 If the job you work at now is not your usual occupation, what would you say is your usual occupation? _____

38 What was the approximate total income of your household before taxes last year?

- ☐ Less than \$19,999
- ☐ \$20,000 - 29,999
- ☐ \$30,000 - 49,999
- ☐ \$50,000 - 79,999
- ☐ \$80,000 or more

39 What was the last year of education you completed?

- ☐ Less than grade 9
- ☐ Grades 9-12
- ☐ Trades Certificate
- ☐ College diploma
- ☐ Undergraduate university
- ☐ Post graduate university
- ☐ Other _____

40 How would you describe your living situation?

- ☐ Head of household
- ☐ Living alone
- ☐ Living with family or relatives
- ☐ Living with a person that I have an intimate relationship with
- ☐ Living with a person not related to me
- ☐ Living with more than one other person not related to me

41 Do you currently have demerit points on your driver's licence? ☐ No ☐ Yes If yes, how many? _____
☐ Don't know

Thank you very much for filling out this survey. Your views are important!

appendix c:

Data dictionary and code book for the Driving in Alberta Survey

General Code Rules

Missing Responses/ (0)

- a. Missing responses to questions have been coded as either (0) zero or (00) double zero depending on the column width of the variable.
- b. Where responses have been recorded as actual numeric values a (0) equals the numeric value (0) zero or a held decimal place, e.g.

Age 20 = (twenty years old)

How old were you when you first started learning to drive? 09 = (nine years old)

00 = (missing response)

Invalid Responses

- c. In all instances (except for the percentage section described below) where a response is *invalid, unusable, or otherwise outside the range of categories* a value of (9) for single-column responses or (99) for two-column responses has been assigned.

Percentage Questions

- d. Exceptions to the above occur in the section where respondents are asked to estimate *the percentage of time* they spend driving in different types of settings and the *percentages of weekly transportation* met by different types of vehicles. In this section missing responses, invalid responses, and answers equal to the number (0) zero are recorded as (00) double zero, or "zero percent of the time". (In the few cases where the percentages given do not add up to 100% all portions of the question were considered invalid and were recorded as (00). Where respondents answered 100% to a category for either of these two questions the response has been recorded as 98% and the rest of the categories in the question are marked as (00) zero percent. An answer of 99 to this question is not invalid. It retains its value as 99%. If it's necessary to distinguish among responses higher than 98% when analyzing material from this section (rather than grouping them as "95% or higher") the best thing to do is screen for the various variations and in advance, exclude invalid sets and reassign values appropriate for the analysis.

Yes/No Responses

- e. For all questions answered yes or no a *yes* response has been assigned the value (1) and a *no* response has been assigned the value (2). Several of these questions are followed by the question "*If so, how many?*". These responses are recorded in actual numerical values.

Variable Locations

- f. The file has been created with variables set in fixed locations that read continuously without spaces between. There are no row assignments; each case is one record. The first 10 columns are used by the program that created the file so the first variable "id#" which is five columns wide begins in column 11 and ends in column 15.

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
ID	v1	1		11	15	5	idnum	Respondent identification number These were assigned to each completed survey. Id #s that begin with 11 are from the general population of 18 - 26 year old males in Alberta and number 11001 to 11220. Id #s that begin with 22 are from the group of 18 - 26 year old males involved as drivers in injury causing accidents in Alberta and number from 22001 to 22078.
Q1	v2	2		16	16	1	dailnews	1. Which do you consider your <u>most</u> important source for daily news? 1 television 2 radio 3 newspaper 4 magazines 0 missing response/9 invalid
Q2	v3	3		17	17	1	leisure	2. Which source do you use most for leisure or entertainment? 1 television 2 VCR 3 radio 4 magazines/books 0 missing/9 invalid
Q3								3. Which kinds of television programs do you normally watch during the week?
Q3a	v4	4		18	18	1	tvpolice	police/detective/action 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3b	v5	5		19	19	1	tvsitcom	situation comedies 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid

General Code Rules

Open Questions

- f) Answers to open questions in the survey frequently contain more than one classifiable response. Each codable portion of a response has been assigned to a separate variable.

e.g. for question 15, part two *"Why did you choose this vehicle?"* the response *"looks good, is good on gas"* is coded as

v52 = 10(style/appearance)
v53 = 22(fuel efficient)
v54 = 00(no third response)

In this case where three separate variables have been allotted to the question the total number of responses across cases should be added together and frequencies estimated from the new total.

- g. Responses to the question *"The thing that makes me most angry about other drivers..."* have been separated into two types—responses that describe a particular attribute of the other driver and those that name a specific driver action. Up to four responses are possible for each of these two kinds of answers, or a total of eight variables. Some respondents listed four driver attributes, some listed four driver actions, some named several from each, others gave only one reply. Again, the total number of responses should be summed for analysis.

e.g. *"uncourteous, elderly drivers who pull out right in front of you and then slow way down so you can't get by"* would be coded as

v67 = 02(lack of courtesy)
v68 = 08(elderly drivers) 2 driver attributes
v69 = 00(no response)
v70 = 00(no response)

v71 = 07("cut you off")
v72 = 04(slow driving/slower than flow) 3 specific driver actions
v73 = 17("road hog")
v74 = 00(no response)

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q3i	v12	12		26	26	1	tvgames	game shows 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3j	v13	13		27	27	1	tvtalks	talk shows 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3k	v14	14		28	28	1	tvsoaps	soap operas 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3l	v15	15		29	29	1	tvmovie	movies 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3m	v16	16		30	30	1	tvother	other 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q5								5. Which, if any, of these newspapers do you look at <u>at least once a week?</u>
Q5	v17	17		31	31	1	jnewsm	News/ City Daily M-Th 1 Edmonton Journal (Mon-Thurs) 2 Calgary Herald (Mon-Thurs) 0 missing/9 invalid

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q3c	v6	6		20	20	1	tvdrama	made-for-tv dramas 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3d	v7	7		21	21	1	tvmusic	music/entertainment 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3e	v8	8		22	22	1	tveduc	educational/documentaries 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3f	v9	9		23	23	1	tvscifi	science fiction/fanstasy 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3g	v10	10		24	24	1	tvsport	sports 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid
Q3h	v11	11		25	25	1	tvnews	news 1 favorite 2 I also like 3 It's o.k., I watch it 4 I dislike it and try to avoid it 0 missing/9 invalid

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q5								5. Which, if any, of these newspapers do you look at <i>at least once a week</i> ?
Q5i	v25	25		39	39	1	snewsm	News/ Sun (Mon-Thurs) 1 Edmonton Journal (Mon-Thurs) 2 Calgary Herald (Mon-Thurs) 0 missing/9 invalid
Q5j	v116	116		166	166	1	ssportm	Sports/ Sun (Mon-Thurs) 1 Edmonton Sun (Mon-Thurs) 3 Calgary Sun (Mon-Thurs) 0 missing/9 invalid
Q5k	v117	117		167	167	1	slifem	Lifestyle/ Sun (Mon-Thurs) 1 Edmonton Sun (Mon-Thurs) 3 Calgary Sun (Mon-Thurs) 0 missing/9 invalid
Q5l	v118	118		168	168	1	sentm	Entertainment/ Sun (Mon-Thurs) 1 Edmonton Sun (Mon-Thurs) 3 Calgary Sun (Mon-Thurs) 0 missing/9 invalid
Q5m	v119	119		169	169	1	snewss	News/ Sun (Fri-Sunday) 1 Edmonton Sun (Fri-Sunday) 3 Calgary Sun (Fri-Sunday) 0 missing/9 invalid
Q5n	v120	120		170	170	1	ssports	Sports/ Sun (Fri-Sunday) 1 Edmonton Sun (Fri-Sunday) 3 Calgary Sun (Fri-Sunday) 0 missing/9 invalid
Q5o	v121	121		171	171	1	slifes	Lifestyle/ Sun (Fri-Sunday) 1 Edmonton Sun (Fri-Sunday) 3 Calgary Sun (Fri-Sunday) 0 missing/9 invalid

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q5								5. Which, if any, of these newspapers do you look at <i>at least once a week</i> ?
Q5b	v18	18		32	32	1	jsportm	Sports/ City Daily (Mon-Thurs) 1 Edmonton Journal (Mon-Thurs) 2 Calgary Herald (Mon-Thurs) 0 missing/9 invalid
Q5c	v19	19		33	33	1	jlifem	Lifestyle/ City Daily (Mon-Thurs) 1 Edmonton Journal (Mon-Thurs) 2 Calgary Herald (Mon-Thurs) 0 missing/9 invalid
Q5d	v20	20		34	34	1	jentm	Entertainment/ City Daily (Mon-Thurs) 1 Edmonton Journal (Mon-Thurs) 2 Calgary Herald (Mon-Thurs) 0 missing/9 invalid
Q5e	v21	21		35	35	1	jnewss	News/ City Daily (Fri-Sunday) 1 Edmonton Journal (Fri-Sunday) 2 Calgary Herald (Fri-Sunday) 0 missing/9 invalid
Q5f	v22	22		36	36	1	jsports	Sports/ City Daily (Fri-Sunday) 1 Edmonton Journal (Fri-Sunday) 2 Calgary Herald (Fri-Sunday) 0 missing/9 invalid
Q5fg	v23	23		37	37	1	jlifes	Lifestyle/ City Daily (Fri-Sunday) 1 Edmonton Journal (Fri-Sunday) 2 Calgary Herald (Fri-Sunday) 0 missing/9 invalid
Q5h	v24	24		38	38	1	jents	Entertainment/ City Daily (Fri-Sunday) 1 Edmonton Journal (Fri-Sunday) 2 Calgary Herald (Fri-Sunday) 0 missing/9 invalid

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q6								6. What magazines, if any, do you look at at least once a month? <i>(three answers possible)</i>
Q6a	v26	26		40	41	2	mags1	01 (inter)national news and current events
Q6b	v27	27		42	43	2	mags2	02 local news and events (<i>Alberta report</i>)
Q6c	v28	28		44	45	2	mags3	03 business/work/professional 04 finance 05 automotive (<i>cars, trucks, motorcycles, racing etc.</i>) 06 specific hobby 07 general sports (<i>Sports Illustrated</i>) 08 specific sport (<i>incl hockey, body building, hunting</i>) 09 general science 10 computers/computer science 11 geography/nature (<i>National Geographic</i>) 12 mechanics/electronics 13 popular music/entertainment 14 men's magazines/lifestyle (<i>Playboy, GQ</i>) 15 religion 16 military 17 humour 18 consumer report 21 reader's digest 99 other 00 missing
								<i>What things do you like or look for in these magazines? (three answers possible)</i>
Q6d	v29	29		46	46	1	magwhy1	1 news and current events
Q6e	v30	30		47	47	1	magwhy2	2 business/work/professional
Q6f	v31	31		48	48	1	magwhy3	3 review of new products 4 information/articles 5 entertainment/pleasure 6 interviews 7 gossip/lifestyle/fashion 8 pictures 9 other/invalid 0 missing
Q7	v32	32		49	49	1	arealiv	7. Which of the following best describes the area where you live? 1 city 2 suburbs 3 small town 4 rural 9 other/invalid 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q5p	v122	122		172	172	1	sents	Entertainment/ Sun (Fri-Sunday) 1 Edmonton Sun (Fri-Sunday) 3 Calgary Sun (Fri-Sunday) 0 missing/9 invalid
Q5q	v123	123		173	173	1	glbnews	News/ Globe and Mail 1 Globe and Mail 0 missing/9 invalid
Q5r	v124	124		174	174	1	glbsport	Sports/ Globe and Mail 1 Globe and Mail 0 missing/9 invalid
Q5s	v125	125		175	175	1	glblife	Lifestyle/ Globe and Mail 1 Globe and Mail 0 missing/9 invalid
Q5t	v126	126		176	176	1	glbent	Entertainment/ Globe and Mail 1 Globe and Mail 0 missing/9 invalid
Q5u	v127	127		177	177	1	othnews	News/ Other Newspaper 1 Other Newspaper 0 missing/9 invalid
Q5v	v128	128		178	178	1	othsport	Sports/ Other Newspaper 1 Other Newspaper 0 missing/9 invalid
Q5w	v129	129		179	179	1	othlife	Lifestyle/ Other Newspaper 1 Other Newspaper 0 missing/9 invalid
Q5x	v130	130		180	180	1	othent	Entertainment/ Other Newspaper 1 Other Newspaper 0 missing/9 invalid

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q10	v44	44		72	72	1	drived	10. Which of the following best describes the way you learned to drive? 1 highschool driver education program 2 lessons through a driving school 3 lessons from a friend or relative 4 essentially self-taught 9 other/invalid 0 missing
Q11	v45	45		73	74	2	agelem	11. How old were you when you started learning to drive? (values represent actual age) __ years 00 missing
Q12	v46	46		75	76	2	agelic	12. How old were you when you got your driver's licence? (values represent actual age) __ years 00 missing
Q13a	v47	47		77	77	1	addtrain	13. Have you taken any additional driver training since you got your licence? 1 yes 2 no 3 missing (If yes, what type?) 1 class 1/tractor trailer/airbrakes 2 class 2/commercial bus 3 class 3/3-axel work vehicles 4 class 4/taxi/ambulance/school bus 5 class 5/regular driver's licence (thru driving school) 6 class 6/motorcycle 7 defensive driving course 8 regular licence (thru high school driver ed course) 9 other/invalid 0 missing
Q13b	v48	48		78	78	1	addtype	
Q14	v49	49		79	79	1	vehown	14. How many vehicles have you owned? 7 = none 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 6 = 6 or more 0 = missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q8								8. Roughly how much of your total driving(<i>what percentage</i>) do you do in <u>each</u> of the following kinds of areas? (<i>in numerical percentages</i>)
Q8a	v33	33		50	51	2	percit	-- %city (100% recorded as 98% with 00 invalid other categories marked 00) 00 missing
Q8b	v34	34		52	53	2	persub	-- % suburbs (0% = 00, responses not adding 00 invalid up to 100% are considered 00 missing invalid and are recorded as missing 00)
Q8c	v35	35		54	55	2	pertown	-- % small town 00 invalid 00 missing
Q8d	v36	36		56	57	2	perural	-- % rural 00 invalid 00 missing
Q8e	v37	37		58	59	2	perhwy	-- % highway 00 invalid 00 missing
Q9								9. Roughly <i>what percentage</i> of your weekly transportation needs are met by <u>each</u> of the following?
Q9a	v38	38		60	61	2	percar	-- % car/truck/van 00 invalid 00 missing
Q9b	v39	39		62	63	2	permoto	-- % motorcycle 00 invalid 00 missing
Q9c	v40	40		64	65	2	perwalk	-- % walking 00 invalid 00 missing
Q9d	v41	41		66	67	2	perbike	-- % bicycling 00 invalid 00 missing
Q9e	v42	42		68	69	2	perbus	-- % bus or cab 00 invalid 00 missing
Q9f	v43	43		70	71	2	peroth	-- % other transportation 00 invalid 00 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
								Why did you choose this vehicle? (cont.) 19 it's available to me (relative's or company car) 20 "because it's mine" (I own it) 21 better for the environment 22 fuel efficient 23 luxury interior 24 comfortable ride 25 hobby, customize it 26 rare/valuable/collector's item 27 good family vehicle 28 it's "convenient" 29 attracts women 30 its "sporty" (looks like sports car) 31 maneuvers well (small but negotiates traffic well) 32 roomy (can carry lots of people) 33 looks masculine 99 other 00 missing response
Q16a	v55	55		89	89	1	dreamod	Did the respondent name a specific make and/or model for the dream vehicle? 1 yes 2 no 3 only manufacturer named 4 same vehicle as named for daily use 5 currently owns it 6 used to own it 0 missing/9 invalid
Q16b	v56	56		90	91	2	dreamveh	16. What is your dream vehicle? 01 car/type not specified 02 small economy-size car 03 mid-size sedan (lexus, accord, taurus etc.) 04 luxury sedan (foreign) (mercedes, jaguar, bmw) 05 sports car (american) 06 sports car (foreign) 07 4 x 4 recreational vehicle (jeep, bronco, etc.) 08 pick-up truck 09 vintage american (60s, 70s sport/muscle car) 10 vintage european (60s, 70s sport/luxury car) 11 luxury american (cadillac, lincoln, etc.) 12 motorcycle 13 van 14 bus 15 limo 16 antique car 17 minivan 18 station wagon 99 other 00 missing response

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q15a	v50	50		80	80	1	dailymod	<i>Did respondent name a specific make and/or model for preferred vehicle for everyday use?</i> 1 yes 2 no 3 manufacturer named only 0 missing
Q15b	v51	51		81	82	2	dailyveh	15. What is your preferred vehicle for everyday use? 01 car/non-specific 02 small economy-size car 03 mid-size sedan (<i>lexus, accord, taurus etc.</i>) 04 luxury sedan (foreign) (<i>mercedes, jaguar, bmw</i>) 05 sports car (american) 06 sports car (foreign) 07 4 x 4 recreational vehicle (<i>jeep, bronco, etc.</i>) 08 pick-up truck 09 vintage american (<i>60s, 70s sport/muscle car</i>) 10 vintage european (<i>60s, 70s sport/luxury car</i>) 11 luxury american (<i>cadillac, lincoln, etc.</i>) 12 motorcycle 13 van 14 bus 15 limo 16 antique car or truck 17 minivan 18 station wagon 19 bicycle 99 other 00 missing response
Q15c	v52	52		83	84	2	daiwhy1	Why did you choose this vehicle?
Q15d	v53	53		85	86	2	daiwhy2	01 practical/versatile (<i>incl. multipurpose, size etc.</i>) 02 reliable/durable
Q15e	v54	54		87	88	2	daiwhy3	03 economical (<i>incl. "in my price range"</i>) 04 hauling cargo 05 use for work 06 sport (<i>hunting, fishing etc.</i>) 07 4 x 4 off-road use 08 winter driving (<i>incl gravel and road conditions</i>) 09 speed 10 style/appearance 11 power/performance/handling 12 technology/engineering 13 quality workmanship 14 prestige/social status/image 15 freedom (<i>or feeling of freedom</i>) 16 fun/pleasure 17 safety (<i>or feeling of safety</i>) 18 good visibility (<i>usually means high off ground</i>)

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q18	v61	61		99	99	1	listime	18. If you listen to radio or stereo, what percentage of your driving time do you have it on? 1 almost always (100-81%) 2 quite often (80-51%) 3 sometimes (50-21%) 4 almost never (20-0%) 0 missing
Q19	v62	62		100	100	1	lisloud	19. If you listen to radio or stereo while driving, how loud do you prefer to listen? 1 very loud 2 loud to medium 3 medium to soft 4 very soft 0 missing
Q20a	v63	63		101	101	1	seatblt	Seatbelt laws go against your personal freedom. 1 strongly agree 2 agree 3 disagree 4 strongly disagree 0 missing
Q20b	v64	64		102	102	1	menbet	Generally I think men are better drivers than women. 1 strongly agree 2 agree 3 disagree 4 strongly disagree 0 missing
Q20c	v65	65		103	103	1	ptsdont	Having demerit points on your licence means you've been pulled over, but they don't reflect your true driving skill. 1 strongly agree 2 agree 3 disagree 4 strongly disagree 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q16 c/d/e								Why would you like to own it? (three answers possible)
Q16c	v57	57		92	93	2	drewhy1	01 practical/versatile (incl. multipurpos, size, etc.)
Q16d	v58	58		94	95	2	drewhy2	02 reliable/durable
Q16e	v59	59		96	97	2	drewhy3	03 economical (incl. "in my price range")
								04 hauling cargo
								05 use for work
								06 sport (hunting, fishing etc.)
								07 4 x 4 off-road use
								08 winter driving (incl. gravel and road conditions)
								09 speed
								10 style/appearance
								11 power/performance/handling
								12 technology/engineering
								13 quality workmanship
								14 prestige/social status/image
								15 freedom (or feeling of freedom)
								16 fun/pleasure
								17 safety (or feeling of safety)
								18 good visibility (usually means high off ground)
								19 it's available to me (relative's or company car)
								20 because it's mine, I own it
								21 better for the environment
								22 fuel efficient
								23 luxury interior
								24 comfortable ride
								25 hobby, customize it
								26 rare/valuable/collector's item
								27 good family vehicle
								28 it's "convenient"
								29 attracts women
								30 its "sporty" (looks like a sports car)
								31 maneuvers well (small but negotiates traffic well)
								32 roomy (can carry lots of people)
								33 looks masculine
								99 other
								00 missing response
Q17	v60	60		98	98	1	lismost	17. If you listen to music or information while driving, what do you listen to <u>most</u>?" 1 radio news/talk 2 radio music 3 stereo/tapes 4 stereo/cd 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q22								For each of these statements about driving please mark the circle that best matches your feelings about it.
Q22a	v75	75		121	121	1	drvpleas	For me, driving is a real pleasure. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22b	v76	76		122	122	1	traflaw	It's important for me to observe all traffic laws. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22c	v77	77		123	123	1	drvalone	I'd rather drive alone than with other people in the car. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22d	v78	78		124	124	1	spatime	Driving is something I like to do in my spare time. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22e	v79	79		125	125	1	impress	When I'm driving with someone I want to impress I look for ways to show my skill in handling the vehicle. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q20d	v66	66		104	104	1	drunkdr	Drunk driving is the most serious driving problem in Alberta. 1 strongly agree 2 agree 3 disagree 4 strongly disagree 0 missing
Q21								21. The thing that makes me most angry about other drivers on the road is... <i>driver attributes</i> 01 lack of attention (<i>inattentive, careless, unaware</i>) 02 lack of courtesy 03 lack of knowledge (<i>of rules of road and handling</i>) 04 hesitation/nervousness 05 aggressive driving 06 reckless driving 07 drunk driving 08 elderly drivers 09 erratic/unpredictable driving 10 lack of common sense 11 reference to race or ethnic origin of driver 12 in too big a hurry (<i>incl "in a hurry to get nowhere"</i>) 13 think they have more control of the vehicle than they really do (<i>esp. young drivers</i>) 14 break laws intentionally 00 missing/ 99 other, invalid <i>driver behavior (specific driver actions)</i> 01 failure to signal properly 02 speeding 03 slow driving/slower than speed limit 04 slow driving/slower than traffic flow 05 following too closely/tailgating 06 passing when unsafe 07 "cut you off" (<i>when passing, merging, entering</i>) 08 bad merging 09 failure to yield right-of-way 10 leave high beams on at night 11 intersection violations (<i>run stop lights/stop signs</i>) 12 talking on car phones 13 fail to turn on headlights (<i>night, bad weather</i>) 14 failure to shoulder check 15 don't stay to right (in slow lane) if slow 16 breaking on corners 17 "road hogs" (<i>incl. drive side by side, can't get by</i>) 18 fail to observe traffic signs 19 turn into wrong traffic lane 20 weaving from lane to lane
Q21a	v67	67		105	106	2	drivat1	
Q21c	v68	68		107	108	2	drivat2	
Q21c	v69	69		109	110	2	drivat3	
Q21d	v70	70		111	112	2	drivat4	
Q21e	v71	71		113	114	2	drivbe1	
Q21f	v72	72		115	116	2	drivbe2	
Q21g	v73	73		117	118	2	drivbe3	
Q21h	v74	74		119	120	2	drivbe4	

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q22k	v85	85		131	131	1	yellolt	When I approach an intersection and the light turns yellow I usually try to get through it. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22l	v86	86		132	132	1	speedlmt	I usually drive the speed limit. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22m	v87	87		133	133	1	ntlegal	There are things I do when I drive that I know aren't exactly "legal" or "by the book", but I do them because they make sense. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22n	v88	88		134	134	1	passeng	I'd rather be a passenger in the car than the driver. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22o	v89	89		135	135	1	risks	I enjoy taking risks when I drive. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q22f	v80	80		126	126	1	thrlfast	I enjoy the thrill of fast driving. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22g	v81	81		127	127	1	friends	Having friends in the vehicle when I drive is distracting. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22h	v82	82		128	128	1	getby	If someone driving in front of me is driving too slow and I can't pass I let them know I want to get by. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22i	v83	83		129	129	1	snowice	Driving on snow and ice is a challenge I look forward to. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing
Q22j	v84	84		130	130	1	frenfast	I drive faster when friends are with me than when I drive by myself. 1 is nearly always true for me 2 is often true for me 3 is seldom true for me 4 is not at all true for me 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q28	v05	95		141	141	1	wmveh	28. The most important thing to a woman about the car a man drives is... 1 power and handling 2 economy 3 style and appearance 4 safety factors 0 missing
Q29	v96	96		142	142	1	fantasy	29. The closest thing to my ultimate driving fantasy is... 1 a trip across North America with great music, cash, and no schedule 2 the Autobahn in Germany at 200 kph 3 driving with an attractive member of the opposite sex 4 sprouting helicopter wings at rush hour 0 missing
Q30								30. Please rank the following in order of their importance to you in driving decisions while driving: 1 = most important, 4 = least important
Q30a	v97	97		143	143	1	riskall	Good handling skills and reflexes 1 = 1 2 = 2 3 = 3 4 = 4 0 = missing
Q30b	v98	98		144	144	1	riskcum	Courtesy to other drivers 1 = 1 2 = 2 3 = 3 4 = 4 0 = missing
Q30c	v99	99		145	145	1	riskrules	Following the rules of the road 1 = 1 2 = 2 3 = 3 4 = 4 0 = missing

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q23	v90	90		136	136	1	frthink	23. When I'm driving and have friends in the car it's most important to me that they think... 1 I have good reflexes and driving skill 2 I'm not afraid of other drivers 3 I respect other drivers' rights of way 4 I know how to get where I'm going 0 missing
Q24	v91	91		137	137	1	wmlike	24. The thing women like most in a man when he's driving is... 1 he can drive fast without losing his nerve 2 he can really maneuver the car in heavy traffic 3 he doesn't take risks in the vehicle 4 he can keep up a good conversation 0 missing
Q25	v92	92		138	138	1	vehsays	25. The thing I want my vehicle to say most about me is... 1 I'm a common sense person 2 I'm someone who likes to have fun 3 I'm someone with a sense of style 4 a vehicle doesn't really say much about the owner 0 missing
Q26	v93	93		139	139	1	goodrv	26. A good driver is someone who... 1 is confident and skilled in handling the vehicle 2 stays alert to the driving situation 3 obeys all posted speed laws 4 leaves enough room for error between his vehicle and other vehicles on the road 0 missing
Q27	v94	94		140	140	1	mismost	27. The thing I would miss most if I could no longer drive would be... 1 going places I can't get to except by driving 2 getting places faster than by other forms of transportation 3 opportunities to get together with the opposite sex 4 the kicks I get from just driving around 0 missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q35	v106	106		153	153	1	empstat	35. What is your present employment status? 1 employed full time 2 employed part time 3 temporarily unemployed, retired, or disabled 4 full-time student 5 part-time student 0 missing/ 9 invalid
Q36a	v107	107		154	155	2	jobstat	36. If employed, what is your current job or occupation? 01 managerial, administrative, or related 02 teaching or related 03 medicine or health related 04 technological, social, religious, or artistic 05 clerical 06 sales (<i>sales force only, does not incl. retail</i>) 07 service (<i>incl. retail</i>) 08 primary resources industries 09 processing, factory 10 mechanic/technician/trade 11 construction 12 transportation, automotive or heavy equipment 13 homemaker 14 student 15 farming 16 military 88 not applicable (<i>ie. disabled, but usually just missing</i>) 99 invalid 00 missing response
Q36b	v108	108		156	157	2	automot	<i>If the respondent's answer to Q36a is in automotive or transportation field, what is the job or occupation?</i> 01 truck driver 02 cab driver 03 delivery driver 04 driver, type not specified 05 automotive mechanic 06 gas attendant 07 automotive audio tech 08 automotive sales/retail 09 automotive painting, customizing 10 driving instructor 11 bus driver 99 invalid 00 missing response

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q30d	v100	100		146	146	1	rkalert	Alertness to other drivers 1 = 1 2 = 2 3 = 3 4 = 4 0 = missing
Q31	v101	101		147	148	2	age	31. What is your age? (<i>values represent actual age</i>) -- years 00 missing
Q32	v102	102		149	149	1	sex	32. What is your sex? 1 male 2 female 0 missing
Q33	v103	103		150	150	1	marstat	33. What is your present marital status? 1 single, never married 2 married, first marriage 3 married, have been married before 4 widowed 5 separated 6 divorced 0 missing
Q34a	v104	104		151	151	1	child	34. Do you have children? 1 yes 2 no 0 missing
Q34b	v105	105		152	152	1	nmchild	If yes, how many? (<i>values represent actual number</i>) 1 = 1 2 = 2 3 = 3 (etc.) 0 = missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q40	v112	112		162	162	1	livsit	40. How would you describe your living situation? 1 head of household 2 living alone 3 living with family or relatives 4 living with a person that I have an intimate relationship with (<i>some married men selected this description rather than "head of household"</i>) 5 living with a person not related to me 6 living with more than one person not related to me 9 invalid 0 = missing
Q41a	v113	113		163	163	1	ptslic	41. Do you currently have demerit points on your driver's licence? 1 yes 2 no 3 don't know 0 missing
Q41b	v114	114		164	165	2	ptsqty	If yes, how many? (<i>values represent actual number</i>) 00 = 0 01 = 1 02 = 2 03 = 3 04 = 4 etc. -- 77 = yes above, but don't know 99 = invalid 00 = missing

Driving in Alberta Survey - Codebook

survey item	variable #	index #	record #	column begins	column ends	column width	variable name	variable text and codes
Q37	v109	109		158	159	2	usuocc	37. If the job you work at now is not your usual occupation, what would you say is your usual occupation? 01 managerial, administrative, or related 02 teaching or related 03 medicine or health related 04 technological, social, religious, or artistic 05 clerical 06 sales 07 service 08 primary resources industries 09 processing, factory 10 machinist/technician 11 construction 12 transportation, automotive or heavy equipment 13 homemaker 14 student 15 farming 16 military 77 same as v107 above 88 not applicable (<i>ie. in usual job, most just missing</i>) 99 invalid 00 missing response
Q38	v110	110		160	160	1	housinc	38. What was the approximate total income of your <u>household</u> before taxes last year? 1 less than \$19,999 2 \$20,000 - 29,000 3 \$30,000 - 49,000 4 \$50,000 - 79,000 5 \$80,000 or more 9 invalid 0 missing
Q39	v111	111		161	161	1	educ	39. What was the last year of education you completed? 1 less than grade 9 2 grades 9 - 12 3 trades certificate 4 college diploma 5 undergraduate university 6 post graduate university 8 other (<i>most cases NAIT, SAIT, or 1st year college</i>) 9 invalid 0 missing

appendix d:

Compilation of qualitative responses from the survey

Guide to the compiled qualitative responses to the Driving in Alberta Survey

Respondent identification number	Vehicle respondent drives for daily use	Why respondent chose the daily vehicle	Respondent's dream vehicle	Why respondent would like to own the dream vehicle	The thing that makes the respondent angriest about other drivers on the road	The thing that make the respondent angriest about other drivers on the road	Number of points on the respondent's licence
ID #	age	dailyveh	dreamveh	dreamwhy	driveat	drivebe	rank/pts
00001	15/24 DS/3	Toyota Supra	911 Turbo [Porsche]	style, quality, and still practical for day to day use		driving slow in the fast lane stopping in a merge lane failure to use headlights in bad weather failure to use turn signals	1423/ no CD draftsman/ technician
Respondent's age when he first learned to drive/ Respondent's age at time of survey		DS=Driving school HS=High School FR=Learned from ST=Self taught					
Number of vehicles respondent has owned		Response to rank order question Skill/handling Courtesy Rules of road Alertness					
		Driver attributes named Specific driver behaviors or actions named					
		Level of education 12= # of years high school CD college diploma T1 technical institute TS trade school TC trade certificate UU/ undergraduate university GU graduate university					
		Respondent's occupation					

ID #	age	dailyveh	dallywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
00010	11/26 ST/5	car	easy to get around	antique	hobby		slow moving vehicles or no use of turn signals	1432/ no 12 oilfield supervisor
00011	14/21 DS/3	truck	get me to work	Ferrari Countach	Because it is nice.	Slow, old farmers on the highway.		3421/ 3 12 nigger
00012	7/19 ST/1	1/2 ton [pick-up]	availability and carrying capacity	1962 Corvette Stingray	Just look at it— need I say more?		they travel too slow	3421/ no CD labourer
00013	14/20 HS/3	car	affordable, fast, reliable	4x4 Jimmy	its an all around nice looking practical and fun	<i>Q41 all of them [points] perfect driving record</i>	People who pass you and then slow right down. They signal too late or not at all.	3241/ yes 12 farm hand
00014	15/23 DS/1	N/A		Trans Am	Like the style. It looks very nice.		People who don't signal turns, those who do signal but don't turn.	3421/ no CD cook
00015	19/24 DS/6+	87 colt	economical	1967 Chev 4WD 3/4 ton panel truck	It is a rare version of my favorite type of truck.	Older, unsafe drivers		2431/ 6 12 shipper/receiver
00016	20/23 DS/3	car (Volks Bug)	cheap insurance, also cheap gas.	Porsche	Fast, stylish, good	Elderly people who turn without using their blinker, etc.		2314/ Yes? 12 inside sales
00017*	16/23 DS/5	'76 Corvette	Do you really have to ask? Fun!! Fun!! Fun!!	Countach 5000S	Style. Performance.	People who can't properly drive, and don't realize it. i.e. they think they are good, safe drivers when they aren't.		3142/ no UU marine engineer (NAVY)
00018	8/20 FR/2	truck	Because I own one.	1966 Conv. Mustang	It is a beautiful car.	People who just don't pay attention to what they're doing on the road.		3421/ 3 12/heavy equipment op
00019*	13/23 ST/3 [additional training stock car—NASCAR]	74 LeMans	Feels great, handles great, fun to drive, I feel safe in it.	My own creation	I would build it the way I want it to perform with safety in mind.	People who don't know how to drive or are very timid behind the wheel. <i>I would like to know the results of your survey if possible</i>	People who block the flow of traffic by always driving the speed limit. People who don't know how to signal or change lanes properly. People who go through red lights.	2341/ 11 12 chef

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
00001	15/24 DS/3	Toyota Supra	reliable, stylish	911 Turbo [Porsche]	style, quality, and still practical for day to day use		driving slow in the fast lane stopping in a merge lane failure to use headlights in bad weather failure to use turn signals	1423/ no CD draftsman/ technician
00002*	14/19 FR/1	car	efficient and reliable	BMW 850i	It's my definition of a sports car plus luxury		drivers who tailgate, who drive under the speed limit, who cut you off	3241/ no TI labourer
00003	12/26 FR/4	Bronco	meets needs	Bronco	already do		too fast, don't use signal lights rush hour is crazy, try to avoid it	2431/ no 12 work in store
00004	16/26 DS/1	Suzuki Samurai	fun, easy on fuel	Jaguar E-Type	looks nice fast & expensive	lack of courtesy	don't signal drive too slow	4132/ no UU sales manager
00005*	12/21 FR/2	truck	easier to haul stuff around	Chev shortbox	There is a lot of things to customize it	careless driving	cutting off, etc.	4231/ 13 12 audio installer
00006	17/22 DS/1	car (Dodge Rampage)	good on gas, reliable	any Jaguar	looks, engine, comfortable interior	<i>Q24 (What a stupid question!)</i>	people who don't signal when changing lanes or turning	1423/ 6 UU ft student
00007*	13/21 DS/2	Dodge Dakota 4x4	to work, hunting, winter driving, off-road, towing trailers and boats	Lamborghini Diablo	looks great	Drivers that are too old to be driving.	Not signalling when they turn or not signalling soon enough.	3421/ no 12 ophthalmic dispenser apprentice
00008*	13/27 ST/6+	76 Pontiac	comfortable ride reliable, full frame (steel) construction. Very safe!	86 Mustang GT	Ido		Failing to use rearview mirrors, failing to shoulder check before lane change. Too short a signal- ling distance before turning.	2431/ 7+ TC automotive technician
00009*	16/25 FR/6+	truck	feel safer, can see more traffic ahead of myself		already have got it & have had it.	Just plain stupid people.		1432/ 3 TC automotive technician

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
00029	12/22 DS/1	truck	it the only one I have "I prefer my truck"	my truck	<i>Q22c depend who with me</i> <i>Q22l 105 km</i>	road hogs	late signalling 85 km drivers "slow" hard breakers	3421/ yes? 12 farmer
00030*	16/20 HS/3	Honda prelude	only vehicle I own	Pontiac Bonneville	It's performance and family car in one	not paying attention to what they are doing		2413/ yes? 12 security guard
00031	10/20 FR/ST/1	truck	more practical	Lamborghini Countach	nice looking	slow elderly people that do way below the speed limit		1221/ no CD tenant support worker
00032	17/19 DS/1	car	easy to park	Cabriolet Convertible	would fit my lifestyle		people who cut me off and force me to hit the brakes	1111/ ? CD unempl
00033	14/21 DS/6+	Toyota Supra Turbo	it looks hot—decent on gasoline—extremely comfortable with a multitude of luxurious gadgets	Porsche 911 Cabriolet RS Turbo	to drive on the Autobahn in europe with the wind blowing in my hair	when they blatantly disobey traffic laws and cause a tense and undesirable driving situation.		4312/ 3 UU chartered accountant student
00034	12/19 FR/4	Firebird	It drives smooth and quiet.	Porsche	The power and handling.	The people who drive around in parking lots that are full but don't pay attention.		3241/ no UU unempl
00035*	8/26 ST/6+	Mack	I work in it.	New	Because it is new.	not paying attention to semitrailer or other drivers ignorance to speeds and reaction times of semis	<i>Q20 [seattleblaws] against Q29 [opposite sex] and so on...</i>	1342/ 10? owner operator
00036	14/24 FR/2	bus	better for the environment, cheap, convenient	BMW 850i	Everybody would like me.	<i>Q24, Q28, Q29 stupid question (next time use recycled paper)</i>	many people go too fast, especially if conditions are not ideal	2341/ no UU ft student
00037	17/24 DS/1	truck	lots of room	new Ford truck	looks and room	<i>Q22e this one will cause traffic injuries</i>	drivers don't look when driving	3412/ ? 12 unempl
00038	12/23 ST/5	Bronco II	economical, small multi-purpose	Early Corvette Convertible	For slow drives on warm summer days	Slow drivers (slower than posted speed limit) uncourteous, careless drivers		3142/ 8 CD radio announcer

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/ pts
00020	18/21 DS/5	1987 Tempo	Had no choice, parent's car, although economical and fun to drive.	1992 Dodge Stealth	It's a classy sports car within a price range that I soon may be able to afford.	I come from Montreal/Ottawa region and I've noticed that Alberta drivers tend to be very erratic. Some drive too slow in the wrong lane, some are just plain stupid and ignorant zig-zagging and tailing too close. My major complaint though is that many people don't realize that the slower traffic stays to the right.		1222/ 6 12 unempl
00021	14/22 DS/4	VW Golf	good gas mileage, well built	Nissan 3002x Turbo	appearance	Older (senior) drivers who drive well below the speed limit and have very slow reactions.	<i>Q23 Bad question!</i> <i>Q28 Dumb question!</i>	1432/ ? CD acctg. clerk
00023	10/21 FR/6+	truck	can haul things anytime	83 Oldsmobile Cutlass V8 4 barrel loaded	Owned one—best vehicle I've ever owned and saved my life when I was in a head on collision.	lack of courtesy	talking on the damn car phone	2341/ yes? 12 disabled
00023	14/18 FR/0	small car	practical, easy to drive in city and tight quarters, economical	Toyota 4x4	fun to drive, off road capabilities, more stable in bad driving conditions	lack of courtesy, especially to cyclists		3412/ 3 UU public works labourer
00024	12/20 ST/5	motorcycle	freedom	Honda CBR900RR	unheard of light weight makes it the most exciting streetbike ever	they don't respect other drivers	especially when it comes to driving slow in the fast lane	2341/ no CD motorcycle parts & sales
00025	10/26 ST/2	S-15 Jimmy	easy to park, room for passengers or cargo good fuel efficiency	Jaguar	prestige	when do drive in a manner takes makes no sense—don't know what to expect	<i>(I speeding ticket)</i>	1432/ 3 GU ft student
00026	16/20 DS/3	S10 Chev p/u [pick up]	very versatile, cheap to run, look great	1992 S10 Chev Baja Special Edition	looks great, it's nice, comfortable, great off-road use		when people do lane changes or turn without signalling	3421/ yes? 12 heavy equipment operator
00027	14/20 DS/4	car	the fastest most convenient way to travel	1970 Mustang	the looks and power	inconsideration of others		2341/ no 12 auto detailer
00028*	12/21 ST/3	Honda accord	runs good, good gas mileage	Lamborghini Diablo	speed, power, looks	<i>Q29 200 MPH</i>		3241/ no 12 labourer /mechanic

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/ pts
00050	16/26 DS/4	automobile Pontiac	good on gas, reliable	semi-trailer truck	for employment reasons for self-employment	think they own the road totally careless drivers idiot drivers		4321/ 3 TC unempl
00051	14/25 DS/3	car	shopping	'62 Ford Falcon	unique and interesting vehicle		tailgaters! & people who don't know how to signal	4312/ no TC systems analyst
00052	13/21 FR/6+	motorcycle	fun to drive and easier to move through traffic	Honda Goldwing	to travel around North America	getting cut off on my motorcycle due to people not paying attention i.e. <u>cab drivers</u>		1432/ no TS electrician
00053*	12/23 FR/6+	4x4 pick up	I like 4x4 for winter driving and hunting in muddy conditions			uncourteous drivers		2341/ ? 12 equipment operator
00054	13/25 FR/1	Dodge Colt 92	for comfort and gas economy and low pollution	Dodge Stealth	I like the body style		people driving too slow from the posted speed limit and causing traffic backup	1432/ 14 12 professional driver
00055	14/24 ST/4	Toyota Four-Runner	versatility, on/off road capabilities, handles cargo and adverse weather well	4-Runner	Resale value, comfortability, versatility, style/looks.	unobservant, not knowing what goes on around them, not comfortable, relaxed in the driving environment		3421/ no 12 supervisor/ driver
00056	10/26 FR/5	Pick-up truck	versatility in rough terrain, cargo space	1970 Plymouth	some models are extremely rare and represent a solid investment, also a favorite style of vehicle	inconsideration/aggressive attitudes i.e. tailgating, improper lane changes, turning into traffic at short notice, left turns in an intersection after the lights are red.		4231/ no CD engineering technologist
00057	6/25 FR/6+	Ford short box pick up	like the looks	Ferrari	speed & style & class	very young drivers thinking they can control their vehicles better than they can (especially in bad conditions)		1423/ 8 12 production tech
00058	5/25 HS/6+	truck	I like trucks			People that don't keep up to the speed limit and don't pull over for the people that are.		1423/ no 12 unempl
00059	12/25 FR/4	Toyota 4x4	good traction in winter, can drive off road	Porsche 911	speed, prestige	people who don't pay attention to what they are doing		2431/ 12 CD technologist

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
00039	14/24 FR/4	Jeep	price	Mercedes	engineering		improper signal braking in the curve	2341/ 13 UU sales
00040	15/21 FR/ST 1	car		Mercedes 500SL	prestige	People who don't know how to drive. Especially older people.		1221/ 5 12 driver (truck)
00041	14/24 FR/5	Blazer	Durability and endurance.	Mazda 323	most economic	recklessness		1432/ 5 CD pt student
00042	12/23 FR/2	Ford Taurus	Reliable. Aesthetics.	GM Bonneville	Classy car.	Slow—careless drivers.		2431/ no UU program coordinator (rec)
00043	10/24 HS/5	4x4 truck	I am a farmer and that is what I need & better visibility	4x4 Club Cab Dodge Extra Cab with new Commins Diesel	Power. For pulling my stock trailer & comfort for my whole family	Inconsiderate drivers.		1432/ yes 12 farmer
00044	8/25 FR/3	S10 4dr Blazer	very functional and versatile truck	Mercedes	image	they have no perception or awareness of other vehicles around them		2341/ no UU systems analyst
00045*	15/26 HS/6+	1975 Toyota Corolla	Economy, it rides better than the truck	Ferrari 512TR	Mechanical excellence, speed and handling potential, prestige exclusivity	Being passed on the highway by someone who thinks I disappear as soon as they are past my bumper, i.e. being cut-off, showered in gravel, etc. <i>Q24 [women like] This one is a little too transparent.</i>		4321/ no UU engineering tech
00046*	14/25 ST/2	sport/touring (i.e. T-Bird SC)	performance and comfort	Ferrari F40	Power; speed & technology	do not pay attention to surroundings	drive too slow, hog road not signalling when turning	2341/ yes? UU engineer
00047	14/25 ST/1	truck	needed vehicle/ fixed it up	new Chevy	more reliable/ better looks	not knowing what they're going to do		2413/ yes 12 unempl
00048*	12/24 HS/6+	pick up	visibility can carry cargo	1972 Challenger	owned one previously	Elderly people who are very slow and people who daydream rather than paying attention to their driving.		2431/ 3 12 heavy duty mechanic
00049	17/25 DS/2	truck	it's versatile	red convertible Mercedes	the prestige	when they don't turn off their turn signals		2431/ 3-6 CD scale technician

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/ pts
00070	18/27 FR/3	small imported car		Toyota Supra	looks great, runs great	not respecting other drivers		4231/ no TC driver
00071	13/22 DS/2	mid size	not too large or too small	Z24	Nice sporty, but yet family kind of car	not courteous		1342/ 12 CD own/manage our company
00072	14/22 DS/1	Dodge 600	comfort and economy	Mercedes Benz	lots of safety features	The idea that if they can get the back of their car in front of yours then anything happens it's your fault		2413/ 3 CD ftstudent
00073	14/21 DS/0	Ford Mustang	what I have available to me	Panterra	the size and style as well as the performance	failure to properly signal and proceed through intersections according to rules		4321/ 3 UU ft student
00074*	9/20 DS/6+	Chevy	comfortable to ride in	Lamborghini	speed and luxury	People who hog the road and don't let you pass. Drunk drivers.		1432/ 5 post secondary farm help
00075	14/25 FR/5	1967 Satellite	Drove nice. Classic car.	1966 GTX	it's the most rare car there is	when they cut me off drive slow in the fast lane		1324/ yes? CD carpenter
00076	6/20 ST/2	4x4 Dodge	Good farm truck Built strong 4x4	GMC 6x6 Army truck	Got lots of power and can haul what I want	going 20 km under speed		1324/ 2 -9 farmer pt student
00077	18/27 ST/3	car	convenient and practical	Acura NSX	looks cool	no courtesy to other drivers		2431/ 3 12 supervisor delivery personnel
00078	13/20 HS/5	car	functional and good on gas	Yamaha V-MAX	freedom + style	People who don't know where they are going.		3421/ 2 12 work at ski shop

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/ pts
00060	14/24 ST/5	compact car	gas consumption	64, 65, or 66 Mustang Convertible	classic, fun-loving good-looking, appealing car	Very slow drivers and people not paying attention even though the latter pertains to me to a certain degree.		4312/ ? TC instrumentation mechanic
00061	12/23 ST/6+	Chevy pick up	reliable and very versatile	1966 Mustang Convertible	something classy and of vintage		going under the speed limit	3142/ 2 12/gas plant operator
00062	14/24 FR/1						being cut off after being passed by another vehicle	4231/ no UU CAD designer
00063	10/23 FR/6+	Chevy half ton	multi-purpose	Corvette	status simple	people that don't know the rules		2431/ 3 12 unempl
00064	14/26 DS/6+	78 Chev Malibu	Economical, low maintenance, drives well, perfect size rear wheel drive	1970 442 Convertible	classic, looks great, power to spare, very civilized in traffic	People who drive without paying attention to the road or to their driving traffic		1432/ 9 TC mechanic
00065	15/22 DS/6+	car		Porsche	prestige	no consideration		4123/ 3 12 self employed
00066	14/21 DS/5	truck	I need it for work to carry tools and materials.	None	It used to be an Iroc-Z, but now I own one and it's no big thrill.		They don't know how to merge. They are unwilling to let people merge or lane change. People don't keep to the right which makes speeders swerve around those who are keeping to the right.	4231/ no 12 drywall taper
00067	16/22 DS/3			Miata	looks great			2431/ no TI restaurant
00068	13/21 DS/5	Nissan 2802x	gas mileage is reasonable	Corvette	its fast and classy	Also not paying close attention to signs, lights, and what I'm doing.	When they drive slow.	1432/10-13 12 sales
00069*	16/22 FR/4	motorcycle	economical, fast when needed, more	Harley Davidson	If you have to ask you wouldn't	inconsiderate, unaware people		4123/ ? 12 unempl (apprentice welding)

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11010	10/19 FR/3	truck	multipurpose	Lamborghini	fast and sharp looking		flashing their highbeams	3124/ no TC electrician
11011*	14/20 ST/3	Chev truck	because I have one and can't afford a Corvette	Ferrari F40	to go 200 mph	They can't drive. Who gave these people a licence? Teach people how to merge, signal, speed up, and "drive in the right lane when possible." A signal doesn't mean people have the right to cut me off. <i>Q24 Who cares? Q27 all of the above Q29 200kph mph</i>		2431/ no trade school mechanic
11012	8/18 HS/2	Chevrolet 1/2 ton	Reliable and durable	Lamborghini	very nice looking vehicle	ignorance that other drivers have toward myself		1423/ no 12 retail sales
11013	13/23 ST/2	Toyota Supra	small, quick, agile & fuel efficient			lack of common courtesy	don't heed right of ways don't dim lights, etc.	1324/ no 12 truss fabr.
11014	16/22 FR/1	pick up truck	because I live on a farm	4 wheel drive pick up	I need it for farming and ice fishing		passing on a solid line	3412/ no 12 farming
11015*	14/20 DS/3	1/2 ton truck	worked on a farm, handy. also I am very tall, so I need lots of room.	'67 GTX Hemi convertible	Only 7 left in the world.		People who do not use their signal lights.	1432/ 4 12 steel worker
11016	14/23 DS/3	Toyota 4x4	good on gas/dependable good winter vehicle	'69 Mustang convertible	it's a classic and I like Mustangs	Is that they are not aware of what is going on around them or what they should do to avoid problems, i.e. driving slow in the fast lane.		2341/ 5 UU bartender heavy eq. op
11017	15/20 DS/2	car	fastest mode of transportation	Jeep Renegade	versatile enough to use in city and off road.	The fact that most have little or no courtesy. People won't move over to help you merge, people who stop to merge, no thank yous for being courteous.		2431/ 10 CD fraudulent
11018	16/18 ST/1	none preferred	I have a lot of vehicles on my mind. I would	[Dodge] Stealth	It looks good, rides good and handles have to choose one that handles very efficiently.	<i>Q10 and watch and learn over and over Q13 but was planning</i>	When they leave their high beams on you. On highway easy. when some driver goes below the speed limit and you can't pass them.	4321/ ? 12 unempl.

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11001	8/22 HS/4	car	weather proof, quiet, better stereo, good mileage	touring motorcycle	I enjoy cycling, and like travelling and camping on them.	Their lack of attention and courtesy.		3241/ no CD industrial development
11002	14/20 ST/4	car	because it is safer than a motorcycle and is reliable in all weather conditions	Honda Civic GE	Because it does 72 mp gallon, nice looking and affordable		You can see a driver break laws, example (run stop signs or light, cut people off) and not receive any penalty by law.	4321/ 3-5 12 glass installer
11003*	15/18 DS/2	small car	cheap gas, good in traffic	4x4	good for winter roads in rural and urban	People who don't know the laws	and don't signal to other drivers	1432/ yes? 12 student
11004*	14/18 HS/1	car	personal choice	Lamborghini Diablo	looks, shape		speeders & people that don't signal when changing lanes	1324/ no 12 milkman
11005	9/19 ST/1	truck	because you can carry loads on it	Ferrari	speed, sport & attention		drunk driving, speeding and fooling around	3412/ 8 -9 unempl.
11006*	16/19 DS/1	small car (2 door)	easier to drive, better on gas	Lamborghini Diablo	fast car, few own one	slow and discourteous drivers	(drive under limits)	1432/ 13 12 gas attend.
11007*	10/21 FR/2	truck	use for hauling bikes, snowmobiles and others	fixed up truck	use for fun, hunting and hauling other vehicles	common courtesy, sensible driving skills some don't use	<i>Q38 ? Never worked last two years</i>	4321/ ? 12 pstudent
11008	13/19 FR/0	small Jap car	excellent on gas, reliable	BMW	excellent design, handles well, looks great, good on gas	lack of courtesy		2341/ no 12 ACS [prison] guard
11009	14/23 FR/0	small car	economical	'69 Mustang Convertible	it's a classic	<i>I feel that I'm discriminated against for my age when I want to insure a vehicle. I also feel that cars are cheaply made and are designed to break down after a few years of use. Insurance companies should get together and bitch at manufacturing companies about the quality of the vehicles they are putting out. The 1992 Topaz's front quarter panels can be pushed in with the heel of your hand. What will happen to the front end of that car when it is hit by another vehicle cruising at 100 km/hr?</i>		2431/ no 12 cook

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11029	8/20 DS/0	compact	good fuel efficiency	Limo	don't have to drive	violent drivers (drivers using bats to smash windows)		2413/ 2 12 fistudent
11030	15/20 DS/2	78 Dodge Arrow	It had personality.	'53 Cobra	It's a cool lookin' convertible	People who are unaware of other vehicles in their proximity. People who are not courteous.	On highway 2 going to Calgary people slow up traffic by driving side by side [diagram drawn] so faster car cannot get through.	4321/ 7 UU bartender
11031	12/21 DS/3	truck	convenient	Jaguar	sophistication	unawareness of others on the road		1234/ yes? 12 dietary attendant
11032*	12/21 FR/5	small car or truck	more gas mileage	'93 RX7	performance	<i>Q19 850rms loud. Q22k I will stop with a safe distance between you and the intersection.</i>	slow drivers don't stay right! and drivers follow too close.	1423/ ? TC auto repairs
11033	15/19 DS/1	car	most comfortable	BMW	It looks great and it has its own image	disrespect for other drivers		2431/ ? UU student
11034	14/23 FR/0	truck	physical room interior and transport of industrial goods	show truck	for the room and ride	other drivers are not always aware of the actions and intentions of surrounding drivers		1243/ 3 CD electroph.
11035	14/22 DS/0	Anything I can get	it's available	electric car	drive without guilt	lack of attention paid to bicycles—no one looks out for them or gives them room.		4312/ no GU fistudent
11036	13/19 FR/0	1989 VW Golf	That's the only one I am insured under	92 Dodge Dakota V8 Magnum Extended Cab	practical, powerful, reliable	Having to wait because person in front of me does not know what to do.	<i>Q29 trip across NA... + woman</i>	2431/ no UU fistudent
11037	10/18 ST/2	motorbike	fuel efficient, pleasurable	Toyota Supra	esteem		improper use of fast/slow lanes	2431/ 5 CD dietician

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11019	13/24 DS/2	Honda civic	Fuel economy, high resale value, few if any maintenance problems excellent engine that is reliable.	Toyota Celica	sleek body design, looks sharp, love the interior.		Failure to obey traffic laws, especially signalling, not paying attention to the road. Cutting people off. Dangerous passing.	1432/ no 12 cleaning porter
11020	10/23 ST/0	Truck (1/2 ton)	for the farm	A monster truck	Because very few people own one.		Impaired drivers.	1243/ no CD farmer
11021*	14/21 FR/2	car	most effective—I live in the country	'92 Corvette	fast, hot, status symbol		Slow driver in the fast lane on the highway	1342/ no TI repairman
11022	14/22 FR/3	Astro Van	company vehicle					4321/ no CD respiratory therapist
11023	14/23 FR/5	4x4 truck	for added security in some of Alberta's adverse driving conditions	1963 Corvette	It is a beautiful piece of machinery	Drivers that hesitate in making decisions before maneuvering		2431/ 4 12 sheetmetal
11024	12/23 DS/4	truck	goes with the job	Limo	wouldn't have to drive	<i>Q23 to get where we're going safely Q27 work Q29 mud or snow out hunting or vacationing</i>	The stupid assholes who try to talk on those fucking phones and drive at once	4231/ 4 CD farmer
11025	10/21 FR/4	truck	most comfortable, easy handling, safe, nicest, good gas mileage	Ferri	Prestige	Drivers that don't respect other vehicles on the road.		4132/ 2 CD unempl.
11026	4/19 HS/3	truck	most practical for farm use, most versatile for different applications	80-87 GMC 4x4 or newer	can do almost anything, like them	Daddy love me buy me a vehicle and bag driving it. Inexperienced drivers under aged joy riding on public roads.		3214/ ? 12 farming
11027	14/22 ST/1	Toyota	cheep gas	BMW	cool!	N/A		1423/ yes? UU ftstudent
11028*	14/23 ST/6+	small truck	easy on gas and ready for payload	57 Chevy	I like old cars.		When they pass real close to your back end.	4213/ no 12 car wash

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11047	14/20 DS/1	car	I own it. Easier to get around.	Jeep Tracker	cool looking, off-roading	Elderly people—they should have driving exams every year after 60th birthday—awful drivers. Motorcycle drivers. Careless driving.	Don't use signal light.	4312/ no? 12 waiter
11048	14/21 DS/4	'89 Shadow Turbo	Fuel economy with power, good handling, priced under \$14,000	Ferrari F-40	out performs all other sports cars under \$500,000 except at top end.	lack of precision and alertness		3421/ 3 CID payroll officer entrepreneur
11049	14/19 DS/2	car	I have just always preferred a car since I've had my licence, but someday I want to own a truck.	a truck	I really like the new trucks and 4x4s coming out now and girls like a guy with a truck.	Sometimes people do not have very much patience and are too aggressive. Also Chinese and Pakistanis in Alberta should be stopped more frequently to see if they didn't get their licence out of a Cracker Jack box!!		2314/ no 12 co-op grocery
11050	11/22 ST/5	1990 Plymouth Laser RS Turbo	good looks, fast, comfortable and sporty	Dodge Stealth RT	Gorgeous sports car, very powerful, nice interior.		People who don't signal when turning, also lights that don't work i.e. brake lights.	4312/ yes? UU college security guard
11051	15/23 HS/4	Toyota Corolla	cheap on gas	Porsche 911	fast, good-looking car		People who ride your bumper.	2431/ no CD commun. marketing
11052	18/22 DS/5	small truck	suits everyday needs, cheap, economical	4x4 truck	sports, recreational vehicle	Also, I think kids in Alberta are too young when they get their beginners drivers license.	People who disobey stop signs. People who don't follow speed limits.	1111/ ? 12 fstudent
11053	16/— DS/0	a tank	safe		none of your fucking business	fucking in the car	<i>Q6 Babes</i>	1432/ 10+ UU fstudent
11054	12/23 DS/6+	4x4	rough terrain roads	Big Foot	places to go, places to see.	those that don't know what they're doing	e.g. passing on hills or improper signalling	1423/ no TC oilfield construction

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11038	9/22 FR/0	1985 GMC 1/2 ton	Truck is more useful around the farm				when they change speeds constantly or turn without signalling	2341/ 3 UU fistudent
11039*	12/22 FR/6+	small car	because it's good on gas	68 Cameo SS	it's fast and good looking		Persons that do not signal or or change lanes with no notice.	1313/ 7 TS roofing
11040	11/19 DS/1	4x4 pick up truck	handles better on gravel road	Porsche	I like its appearance	drunk truck drivers		1211/ ? 12 unempl.
11041	12/19 FR/2	small car	effective for city traffic	convertible Corvette	looks good	A road is for traffic, if you aren't in a hurry you should be aware of and facilitating of those that are.		2341/ ? UU fistudent gas attend.
11042	18/21 FR/0	car	convenient, safer than motorcycle and can be used in all weather	Porsche Carrera	comfortable, excellent control, looks great	People think that it's o.k. to drive 10 km/h above the speed <u>limit</u> . All speeding should be stopped by police or <u>limits</u> should be increased.		2413/ no UU fistudent
11043	14/23 FR/4	Chev Camaro	economical to run compared to my other car	1969 GTO Ramair IV convertible	Very rare muscle car. It's value is always increasing. Very hot car!	Many drivers seem unaware of the other people on the road.	People who pass you really fast to try to gain a few seconds.	1432/ ? UU program. analyst
11044	10/20 HS/1	1985 Camaro Z28	Because it is quick and has great passing power. Also could afford it.	Dodge Stealth	Because it is fast and very good looking car and because someday could be realistic.	I hate people that tailgate and won't get off your rear end and try to force you to go faster than you are just because you have a fast-looking car.		2431/ 8-9 12 fistudent
11045	15/23 FR/5	Cavalier coupe 2.2 litre	economical, slightly sporty	Porsche 911 Carrera	Fast!	reckless driving—there seems to be a lack of general courtesy amongst drivers.	<i>Q40 Living...intimate..wife</i>	3241/ no 12 plumber
11046	14/21 FR/0	big car	always get the right of way	1973 Pontiac Ventura	Big, gawdy, and a beast on the streets	Not enough courtesy from other people		3241/ ? UU fistudent

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11065	14/21 DS/0	car	because I can go where I want when I want	Acura NSX	Because it looks good, not many people drive them and it has a lot of power		That they don't use their turn signals and also, in a dual turning lane the driver on the inside turns into my lane!!	1243/ yes? UU fistudent
11066	13/23 FR/2	car	I could afford it and I need it for my job.	mid sized truck			People are not confident about driving. Drivers are too indecisive when on the road, and are not aware of the rules, courtesy, or how to react properly in emergencies. <i>Q20a sex should have no bearing on driving ability</i> <i>Q23 why should it matter what other people think about my driving. I don't drive to impress people. Q24 & Q28 The same for this one too. Q29 autobahn (I've been there already) Q29 opposite sex..what about sexual orientation? Q32 come on guys! If you read your cover letter you already know I'm a guy! THINK NEXT TIME! Q40 other-share responsibilities with spouse equally.</i>	2431/ no CD photojour. reporter
11067	17/23 DS/1	compact car	fuel efficient	Lexus Coupe	the look!	Careless drivers who	pull in front of me without signal or follow too close	1432/ no UU comp. programmer
11068	14/21 FR/2	short box pick up	it is a short vehicle, handy to get into small spots	short box pick up	it looks good		do not dim lights at night and giving me the finger	3421/ no -9 bunching
11069	16/21 DS/1	Eagle Talon	looks and performance	Ferrari F40	prestige	being inconsiderate	weaving, unsafe turns	4231/ no UU financial analyst
11070	16/23 DS/3	Chev Beretta	Style				People that don't signal properly and that go 10-20km below the speed limit	2431/ 3 12 supervis.
11071	18/20 DS/1	car Ford Tempo	cheap on gas	Z-71 GMC short box	like GMC and it looks good!	careless drivers who don't have any respect for themselves or other drivers		1432/ 3 12 supervis.

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11055	14/23 DS/4	91 Cutlass Supreme	company car	A.C. Shelby Cobra	very rare, very fast, very expensive	they don't know how to drive	and they don't use their signal lights	1324/ no UU sales rep.
11056*	6/22 FR/2	74 Ford 1/2 ton	sentimental value: grandfather owned since new	Ford AC Cobra	Because the car is very rare and it is one of the few North American exotics	Bicyclists that at one moment are sharing the road with other cars and will then ignore a stop sign or red light etc..in other words going from a motor vehicle to a pedestrian.		3421/ yes? UU fistudent
11057	14/21 ST/6+	Chev 4x4	drive any place I want	don't have one		courtesy		4312/ ? 12 gas jockey
11058	14/19 DS/0	Cavalier Z24	sporty and practical	Ferrari Testarossa	Image		stopping in merge lanes	2431/ ? UU fistudent (1 speeding ticket at age 16)
11059	13/22 FR/1	car	can carry more people	Beretta	Looks nice, modern, fuel economy	People who are not sure what they're doing		1324/ ? 12 fistudent
11060	14/21 DS/0	1974 Ford pick up	I'm an occasional driver on my father's truck	I don't have one		lack of common sense this includes impaired driving		4123/ no GU fistudent
11061	17/20 DS/6+	VW Golf	good all around vehicle	1964 Impala	it's the coolest car in the world	They don't know how to drive!	Q29a North America Canada	2341/ yes? 12 cook
11062	10/20 DS/3	81 Camaro Z28	I like the style	Nissan 300ZX of car, wanted a sports car	the car looks awesome	People are very stupid.	People never signal.	4321/ 3 1C pistudent
11063	12/23 DS/6	motorcycle	economy, fun, style	1992 Springer Softail, by H.D. [Harley Davidson]	investment and pleasure	people that don't have common sense and who are not confident in handling a motor vehicle.		1423/ 8 12 driver & swamper
11064	12/21 ST/2	Jeep	convertible in summer 4x4 in winter—practical	Saab	class-safe-affordable luxury		not following signs (ex: stopping at a merge)	2341/ no 12 carpet cleaning

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11081	14/19 HS/0	mid-sized car	it is easier to maneuver and to judge distance than a truck or van	1992 Chevy pick-up	Looks, ability to carry cargo, and the look of masculinity	People who stubbornly drive when drunk because of macho pride and hostile drivers. I can see this a valid reason for freeway shootings.		3421/ no TI fistudent
11082	14/23 HS/6+	Datsun 280Z	because it is an affordable sports car	1959 Corvette	because it is a classic sports car	People driving side by side in a 80 km/h zone at 30 km/h while you are late for work.		1423/3 <i>or less</i> 12 mailroom supervisor
11083*	14/20 DS/3	Porsche 944 Turbo	enjoy the handling and power	Ferrari Testarossa	beautiful + fast, handles great (I imagine)	Failure to notice what is around them. Jealous people!	don't pull to the right when a fast car approaches in left lane	2341/ 9 12 sales trainer
11084	16/22 FR/5	motorcycle	enjoyment/cheap to operate	Chev travel van	enough space for my family		people not using signals/ broken cars	2431/ yes? 12 APP mechanic
11085*	14/23 DS/2	Datsun 4x4	only one running other a hobby car	1957 Chev Belair	it reminds me of the '60s and the music they played on radio			2314/ 3 12 cab driver
11086	14/18 ST/0	Mercedes Benz 280	I believe they're the best car a person can drive	735i BMW	Just for the hell of it. Main attraction, also.		Speeding and trying to cut somebody off.	2413/ no UU fistudent
11087	12/21 ST/6+	4x4	because I drive a lot in rough terrain	Corvette	speed & looks	Chinese and Pakistans that looks through the steering wheel to where they're going		1243/ no 12 sales
11089	14/23 DS/2	car	Quick way to get to work. I can't ride my bike or else my dress clothes get all wrinkly in a bag.	truck or Pontiac sunbird	Trucks, you can carry lots in them and go anywhere. The Pontiac Sunbird is an economically priced car with locks and lots of room for camping	Stupid driving errors such as signalling or driving well under the speed marked. And people who show no courtesy toward other drivers. Some young people drive too damn fast and cannot handle their own vehicle. (Generally older people and asians/orientals. This is not meant to be a prejudice statement, but rather the facts.) stuff or hockey equipment.		2413/ no 1C retail asst. man. <i>[pis] should be off now wrong turn at no turn posted corner</i>
11090	12/19 HS/1	truck	handy	Porsche	fancy		have high beams on at night	1234/ yes? TC fistudent

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11072	14/18 ST/0	Toyota Tercel	reliable and economical			aggressive drivers		4132/ no 12 unempl.
11073*	16/23 DS/6+	Chevette	fuel efficiency	66 Mustang convertible	very nice classic!	Everyone is in a hurry and couldn't care less about anybody else.		3412/ 3 CD avionics technician
11074	9/19 DS/1	'85 Dodge Aries	Because it's the only one I can use.	Dodge Stealth	It's dependable and a sharp looking car	<i>Q28 a guy's opinion</i>	straddling two lanes	4231/ no 12 cashier
11075	11/21 FR/3	car-use truck for work	car-comfortable truck-mandatory (company vehicle)	Lamborghini	prestige, goes fast	People are careless, think they are better drivers than they are. Everyone is in a hurry to get somewhere and wait.		2431/ 7 UU oilfield battery op.
11076	13/18 ST/2	my car		Lamborghini LM002 Jeep	Safe. No way you could die in it. It would be too much fun.	Lack of ability to make decisions in a short space of time. Most people tense up.		1432/ no 12 fistudent
11077	20/22 DS/2	Honda	Because its engine is very good.	Honda Accord	Because it fit for me to drive.		Too slow, do not use the signal light before change lane or turn left, right	4213/ 3 12 fistudent
11078	14/23 FR/2	Mazda 323	Good on gas (esp. on highway) economical small car with good handling safety features	Mazda RX-7	because of the looks, performance		slow drivers in the faster, passing lanes and don't bother to move	4321/ no GU case worker
11079	17/24 DS/0	none		Volkswagon Jetta	sporty, reliable car	The way we as drivers treat bicyclists. They too are a vehicle.		1432/ no TC CD chef
11080	16/19 DS/1	car	more comfortable to drive than a truck	Corvette	the sleek design, the powerful motor		drivers who tailgate and weave in and out of traffic	3412/ no UU fistudent

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11101	16/18 DS/0	My mother's Hyundai	It's the only car (except on special occasions) that I have access to.	convertible sports car	Transportation, looks, and open roof	Ignorance of the law & some lack of common sense.		3421/ no UUU fistudent
11102	15/19 DS/1	car	it is the most affordable vehicle for me				People don't obey the law.	2413/ ? 12 machine operator
11103*	14/18 DS/2	light duty truck	a truck best suits my need	Dodge Stealth	looks hot		When they pull out in front of you on a major road and then they don't even go the speed limit.	1423/ 3 12 gas attend. plstudent
11104	14/20 ST/3	a car	I can carry what I need and who I need.				People who drive so slow down the highway.	2341/ no 12 mover
11105*	13/20 DS/6	trucks	fast, easy	'61 Ford unibody F-100 pick-up	fast, beautiful, rare	stupid drivers		2143/ 7 12 oilfield
11106	15/22 DS/1	car	convenience	BMW		cellular telephones		1423/ ? GU journalist
11107	15/16 HS/2	car	fuel efficient, dependable	Ferrari Testarossa	because it's fuel efficient and dependable	slow, blind senior citizens who are more dangerous on the road than any other people		2431/ 6 12 cook/ singer songwriter
11108*	14/19 DS/1	truck	for work purposes	VW convertible	to enter it in shows, they're reliable and	they have no courtesy when they change lanes good on gas		4312/ no 12 shipper
11109	15/20 DS/1	suburban van	it's my parents	VW Jetta	we had one once and I liked it	they are inconsiderate and only care about getting somewhere fast		3421/ 4 UUU fistudent
11110	14/22 DS/HS/5	small economical car	fuel efficient—concern for the almighty \$	Jaguar XJ12	fast, prestige, quality		not signalling for lane changes	2314/ no 1 TT VPstudent affrs. (student assoc.)

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11090	14/19 HS/0	car		'57 [Cor]vette	a marvel of engineering	When they are uncourteous. People should have manners, such as making gaps for merging vehicles		4231/ no 12 militia/ warehouse
11091*	13/21 ST/1	high performance muscle car	for the pure enjoyment of driving	Hemi 'Cuda (convertible)	very rare	lack of attention paid to other vehicles around them		1432/ 11 12 unempl. pistudent
11092	10/24 FR/6+	full size half ton	comfort and visibility	69 Z28	looks and value increase instead of decreasing	They don't look before they change lanes or turn. Too much day dreaming.		4312/ no 1TC electrician
11093	12/22 FR/2	motorcycle	cheap, easy to park	Saturn SL2	good engineering, new ideas	don't look before turning	drive too slow	2341/ no CD fistudent
11094	18/22 ST/1	truck	Ford motor standards, reliability, looks					4312/ no 12 grounds/ RCMP aux.
11095	12/22 ST/0	pick up truck	I use it for work	Ferrari Testarossa	The exhilaration of speed.	They don't look to see what other drivers are doing. they have tunnel vision. They are not courteous.		2341/ no UU prod. man.
11096	17/18 DS/0	bus	saves gas, may not be able to use parent's car			Most seem to ignore the rules of the road and tend to think that for some reason everyone should make way for them.		2431/ no UU fistudent
11097	14/21 DS/2	car	sporty, good fuel economy	Porsche	status, sporty, fast	not courteous	not signalling drive too slow	3241/ no UU fistudent
11098	14/21 DS/1	Mazda RX-7	because it's small and sporty	a small two seater convertible	to drive it on weekends with the top down	if I don't trust what they're doing		2341/ no UU grounds/ student
11099	14/18 FR/1	truck	you can put more camping and hunting material on the back	Ford Ranger 4x4	I like small trucks that are good on gas and still go through the bush	people that are in a hurry to get nowhere	people that don't know how how to use the dinner switch	2431/ no 10 farm hand
11100	15/23 DS/1	car	easier to handle; bigger (more room for occupants)	Corvette	quick, very nice, relatively classy	slow drivers—either they don't know where they are and/or where they are going and in my opinion, serious road hazards		1432/ no engineering/ student

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts/job
11117	16/20 HS/2	truck	4x4			not being courteous		4312/ no 12/pistudent
11118	14/23 FR/2	'71 Pontiac Granville	I restored and rebuilt it	92 Grand Am	comfort, luxury, performance	That they are in a rush and make them inconsiderate and dangerous.		4312/ 2 12 construct.
11119	14/21 HS/4	car	I feel comfortable driving a car			When another driver endangers my life when passing in an unsafe passing zone or follows too close behind.		4231/ 4-6 12 plant foreman
11120	12/22 HS/4	semi	because with my job that's what I drive every day	1967 Chevy	I like the older style vehicles	Everybody is in too much of a hurry & don't pay attention to what's going on (i.e. middle aged drivers & elderly people!!!)	4231/ no TI truck driver	
11121	17/25 DS/1	GMC mini truck	cheap	sporty 1/2 ton w/ motor bike	always wanted one	People that are given a licence when their driving shows they got it regardless their skill. <i>Q20a I would wear one anyway, but believe shouldn't be told that I have to!</i>	23341/ ? 12 draftsperson	
11122	12/23 HS/2	car	economical, handles good	custom Chev 4x4	coolness	rudeness, (getting cut off, etc.)		3142/ 3 1C driver
11123	9/21 ST/1	car	cheap buy	Corvette ZR1	nice looking car	People who cut you off and don't signal	2413/ no 12 gas attend.	
11124	17/19 DS/1	car	don't like trucks lots of space	Honda Prelude	sporty, looks good	People who do not signal for a lane change	1342/ 3 12 sales associate	
11125	14/21 DS/0	Prelude	reasonable on gas good performance	Stealth	high performance, status car	discourtesy	4321/ no UU fistudent	
11126	18/22 DS/1						4321/ no UU direct mrktng. clerk	
11127	6/20 FR/3	truck	it is my newest vehicle, and more appropriate for agricultural purposes.	Acura NSX	style, handling, etc. expensive.	people who have no idea what they are doing	2431/ no 12 farmer	

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11111	14/23 DS/4	Datsun pick up truck	cheap, doesn't matter if sombody hits you, trucks move things well,	Porsche 922	large, solid, well built, excellent driveability, performance.	They do not read traffica and react to it as they should thus causing slowdowns and potentially dangerous situations. <i>Q22h ie. flash highway lights</i> <i>Driver training should be changed to a more skill oriented</i> <i>form. If a person can follow the signs (i.e. speed and lights)</i> <i>and parallel park, this will not help them in any way should</i> <i>an unusual situation arise. Too many times I have seen the</i> <i>opposite reaction from drivers in an emergency situation</i> <i>from that which should have been used. An example of this is</i> <i>the locking up of brakes and freezing at the wheel when what</i> <i>is needed is slight acceleration followed by a turn to either</i> <i>direction to avoid collision. By changing driver training to a</i> <i>more skill oriented from, (as cars are becoming faster and</i> <i>quicker) you would reduce the number of accidents on the road</i> <i>as those behind the wheel would understand how a vehicle</i> <i>reacts in emergency situations and be able to work with it</i> <i>instead of standing on the breaks which can greatly increase</i> <i>the probability of an accident as the car often skids out of</i> <i>control. When this happens others who do not know how to</i> <i>react to emergency situations following a person woh does not</i> <i>often get involved in the accident as the first person did not</i> <i>react properly to the situation at hand thus endangering other</i> <i>drivers.</i>	1342/ 8 2UU commercial pilot	
11112	14/19 DS/1	smaller, economical type	I live 20km from work and work almost every day, so I need something economical.			that they don't look where they're going or don't look at signs		1342/ 11 12 cashier asst. man.
11113	14/18 DS/1	my truck	I like it	Don't have one		carelessness		3412/ no 12 fistudent
11114	12/23 FR/4	'68 Chevelle	It's a classic	old restored muscle cars	they're classy vehicles	people who don't drive with the flow		2341/ 3 TC pressman
11115	16/21 DS/4	small 4 cylinder car	economical and easy, saves money and gas					3241/ 12 labourer
11116	14/19 FR/3	mid-size	comfortable driving	'68 Dodge Charger	restoration	elder drivers (65 and over)		2431/ no? 12 unempl.

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/ pts
11138	16/20 DS/1	car	style, comfort, convenience	Jaguar Sovereign	status, prestige	lack of courtesy, and lack of driving skill		4321/ no TC/CD cook
11139	11/21 DS/3	truck	needed truck for farm	Grand National	it is rare & nice	defensive drivers		1212/ 3 12 manufr./ pipeline
11140	16/24 DS/6+	Honda Accord	reliable and good handling	Nissan 3002X Turbo	fast	don't know when to turn their signal		3412/ no CD ftsudent
11141	8/21 FR/2	truck	I chose this vehicle so I could haul things	68 Mustang convertible	Looks good and gives a feeling of freedom when driving	That when you are following someone and they are turning across the highway and no one is coming from the other direction the driver ahead of me won't go in the other lane so I can go by without slowing right down.		2431/ no 12 auto body mechanic
11142	14/18 FR/2	'92 Corvette Z-R1	it's a convertible and has the speed and flash for the chicks	Harley Davidson	Because I wanna go to pools halls	Old fuckers who go 10km/h all the time and can't see over the wheel		4213/ ? 12 -
11143	16/18 DS/2	Chevy Blazer	I liked it	67 Chev Malibu SS	I love the body style, but I would have the engine all done up	When they drive too slow or way below the limit.		1432/ 3 12/ gas attend.
11144	14/20 DS/1	car (Camaro)	nice car, good on gas	Lotus	nice looks, high speeds	(old people)	Don't signal, drive very slow	2431/ 3 UU ftsudent
11145	12/22 DS/6+	truck	it best suited my everyday needs	Corvette convertible	the looks of the vehicle	People that do not know or follow the laws of the road. People that do not drive defensively.		2413/ 1 12 firefighter
11146	12/23 ST/6+	truck	convenient, excellent visibility	Cadillac Allante	status and style	Inability or refusal to abide by common legal rules and/or courtesies, i.e. fail to signal, driving slow enough to be a hazard, etc.		3421/ 3 GU ftsudent
11147	14/20 DS/1	'81 Pontiac	parents lend it to me	'67 Corvette	because it's cool			1342/ yes? UU ftsudent
11148	14/20 ST/4	Chev Blazer	gas mileage	Corvette	body style	inconsiderate driving skills	3241/ no	UU power lineman

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11128*	14/19 FR/1	truck	because you sit up so high in a truck and it's economical	Dodge Stealth	Because they are fast and very nice		Some of them drive too slow on the highway or city. If the speed limit is 50/100km they should drive 50/100km not 30/80km in a 50/100km zone.	1423/ ? 12 fistudent
11129*	14/19 DS/1	car	I liked it	1959 El Camino				4231/ yes gas attend.
11130	6/19 HS/1	truck	more practical for my job and lot handier for farm use	Ford Flarside	sharp looking truck! good on gas for standard truck		They are ignorant, no common sense! <i>Q4!no [points], but my fucking insurance is sky high. I thought we were innocent until proven guilty. Is it not racist to group us all together and call us another fucking statistic ?</i>	2413/ no 12 utility
11131	14/21 DS/6+	pick up truck	affordable	71 Dodge Barracuda	I like old Dodge Muscle cars.		When they don't use their signal lights properly and when they drive in the fast lane and do under the speed limit and improper merging.	4321/ no 12 composite fabricator
11132	14/21 HS/1	truck	sporty, useful	Porsche	sporty and fast		When there is a driver going <u>below</u> the speed limit blocking traffic so everyone is going slow.	4231/ 2 12 courier
11133	14/21 DS/1	truck	I feel safe in a bigger vehicle.		a new truck every year	Women get cheaper insurance.		4231/ yes? 12 app welder
11134	8/18 ST/1	car	it is available	Porsche	It goes fast and it looks awesome		highbeam lights people cutting you off late signal lights	1423/ no 12 unempl.
11135*	16/19 DS/4	motorcycle	most efficient cheap	Ferrari Testarossa	most beautiful car in the world	too slow no manners, rude	no signal	2341/ 3 12 factory
11136	12/20 ST/3	pick up truck	Because it's what I first learned to drive and I'm used to driving a pick up truck.	Porsche	Because it's fast and sporty looking			3124/ 13 12 welder
11137	16/23 HS/2	Chev Beretta	sporty, powerful, reasonably fuel efficient	<i>Q204 [drunk driving] is very important, but so is careless driving and speeding</i>		People who do not use their turn signals. People who do not know when they have the right of way. People who drive carelessly, especially those that are talking on a cellular phone instead of paying attention to the road.		3421/ no CD alarm technican

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ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11159	12/20 DS/1	VW Rabbit	I own it. I'd really rather prefer a VW Corrado	VW Corrado	sporty, somewhat rare, powerful (quick) all around nice	People are not courteous People aren't alert	such as giving a person room to merge	2143/ yes? 2C f1student
11160	14/24 ST/10+	car	it suits my needs	Mercedes	because it's classy	everyone is in a hurry	<i>Q14 more than 10</i> [cars owned]	1423/ no 12 printer
11161	16/22 DS/1	truck	that's all I have ever had—they come in handy	Dodge Viper	Because it's very unique	There is no courtesy on the road	<i>Q30</i> [ranking] <i>none are least important, they all are</i>	1111/ no 12 truck driver/const.
11162	16/23 DS/0	Ford Tempo	easy to drive and maintain	BMW 3 series	like German cars	They like to pretend where they are going, but they really don't know. Don't know when to turn into other lane.		1221/ no 2C f1student
11163	14/21 FR/1	Bicycle	because it's inexpensive and good for the environment			The inconsistency among the populace.		3412/ no UU waiter p1student
11164	12/19 FR/3	car	it allows me enough room for people and belongings	Acura NSX	Beautiful car, flawless construction, powerful, and very appealing	They are not conscious of the people around them, they have no concept of the abilities and limits of their vehicles, and are lazy, i.e. don't shoulder check, signal, etc. (not alert).		2341/ 14 12 f1student
11165	14/21 DS/6+	Honda Civic	economical	1968 Pontiac Firebird	<u>Rare</u> , <u>fast</u>	carelessness, unawareness		3421/ 6 12 partsman mechanic
11166	14/19 FR/0	Ford Fairmont '80	small, compact station wagon yet with payload big enough for hauling what I want	Porsche 944 Cabriolet	It looks good and built for speed	When people travel under the speed limit and people who stop in merge lanes		1432/ no UU f1student
11167	10/19 DS/1	truck	you can haul things	Lamborghini	looks good, speed, everybody admires them	Not careful enough to defenses.	Speeding past speed limit. Passing on a solid line and where visibility is poor.	1342/ no 12 farmer/ logger
11168	6/20 FR/2	truck	suits my needs	68 convertible Camaro	looks hot and goes fast	Slow drivers that take up both lanes of traffic.		1342/ no 12 farm labourer

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11149*	10/24 ST/6+	4 wheel drive truck	you can basically go anywhere you might want to go	Harley Davidson	If you have to ask you will never understand.	A lot of drivers are not courteous enough toward other drivers.		1342/ no 12 mainten.
11150	13/20 FR/0			Ferrari	nice looking, speed		Failing to signal for turns or lane changes.	4231/ ? UU fistudent
11151	8/23 FR/6+	Mazda RX7	Because it's sporty and good on gas.	Ferrari Testarossa	Because it's fast.	courtesy	<i>Q29b</i> autobahn " <i>did it</i> "	1243/ no 12 whse. man.
11152	12/19 FR/1	Datsun 4x4	economical, practical	Ferrari Testarossa	style, image	lack of couteisy		4231/ no 12 delivery driver
11153	14/22 DS/4	Buick Skylark	economical	Cadillac Allante	convertible, fast, sporty	That no one knows what common courtesy is anymore		2143/ no TC bartender
11154	15/23 DS/1	car	It was given to me by grandfather	Honda	good car		cut you off don't signal when turning	4312/ no CD plumbing water/soil management
11155	12/19 FR/3	truck	enjoy driving a truck I drive truck for work	4-door Dualy	mint looking	The skill or lack of skill while driving and parking, changing lanes (cut offs) and entering highways improperly and not knowing where their vehicle is (bumping vehicles while parking)		1432/ yes? 1C apprent. welder
11156	14/21 DS/4	car	sporty, economical	Vector	speed	they don't think of the other people		3421/ ? 12 unempl.
11157	8/20 HS/2	car	I love my car.	have none		no comment		1342/ yes? 12 mechanic apprentice
11158	13/20 FR/2	'81 Ford 1/2 ton	reasonable price and affordable MINT CONDITION	newer 1/2 ton Ford Truck	just to be in style	Driving the proper speed limit on a gravel road and and having some fool fly past and throw rocks at my windshield		2413/ no TC auto mechanic

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11178	15/23 DS/2	car	best equipped for year round driving	luxury car i.e. BMW	comfort, convenience		drivers not signalling or warning others about their actions	3241/ 3 UU customer service rep.
11179	12/18 FR/1	Firefly Turbo	good on gas + it saves the air	Ferrari F40	fast	They're stupid, they cut you off and don't even know that they have done it. Stupid shit like that.		1432/ no 12 unempl.
11180	16/24 DS/4	GMC truck	needed it for work (looked great)	Toyota 4-runner (don't laugh)	It's dependable, good looking, efficient, room for camping gear	The fact that when you let somebody in they don't wave!! --Slow drivers--drivers that basically form "lines" across the freeways so you cannot pass them. Wouldn't mind so much if they did it a little bit faster!! (like about 50kms) Q22k [yellow intersection] <i>unless I'm very close</i> Q22m [rather be passenger] <i>wrong!!</i> Q28 [thing important to woman] <i>just trying to be honest!!</i>		4231/ no 12 constr.
11181*	13/22 FR/6+	truck	can haul loads	Corvette ZR-1	looks good and is fast	-drunk drivers -people with poor driving skills-disabilities		1432/ 4 2TI GM parts person
11182	14/23 DS/6+	truck	comfort	Ford Explorer XLT 4x4	looks	small children not wearing their seatbelts		3421/ no 12 service
11183	14/19 FR/0	car	ease of use, gets me where I need to be faster than walking	Jeep	take me anywhere, looks good, safe	people that don't respect other drivers or the rules of the road		1324/ no 12 flstudent
11184	17/20 DS/1	my '77 GMC truck	It is the only vehicle I own.	A new Mercedes	Diesel engines tend to last longer. It's comfortable and looks impressive.	People in a hurry (taxi drivers).	Being cut off. Being followed too closely.	2413/ no UU unempl.
11185	14/21 FR/3	truck	can haul motorbike (trail) and toys	New Chev truck	newer, nicer looking, more reliable		not signalling	1423/ lots 1T unempl/ welding
11186	14/20 FR/1	1986 Camaro Berlinetta	because it is the best	Ferrari Testarossa	because it is the best	old people and women who don't know how to drive		1423/ 2 UU cook

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11169	14/24 FR/5	Isuzu Rodeo	roomy for our family, reliable for travel	77 Ferrari	classic vehicle, like the looks	Careless.	Follow too closely and pass when is unsafe.	3241/ ? 12 contract, oil gas ind.
11170	14/23 DS/2	car/walking	convenience/exercise	Porsche 911 Carrera	prestige, engineering, capabilities	Drivers Tailgating! or pulling into traffic and not doing the speed limit in front of you. People who don't understand merging procedures on freeways. <i>Q28 irrelevant</i> <i>This survey is obviously geared toward young males.</i> <i>I feel elderly citizens are equally as hazardous.</i>		2431/ no 12 pstudent
11171	14/21 HS/2	car	more economical	J-30	Prestige.		Car phones. People who have burnt out tail lights and signal lights.	1432/ no UU ft student
11172	14/23 DS/1	compact car	economical	Jeep	convertible	Unsafe, elderly drivers, slow drivers on main freeways.		4231/ ? CD flight instructor
11173	15/19 DS/0	Mazda MR3 or Toyota Paseo	sporty, economical, affordable	Jeep 4x4 Pathfinder	I can go any place I want to i.e. off roading	they don't know where they are going—all over the road i.e. they think they own it.		1342/ no UU fistudent
11174	10/22 HS/6+	car	more defensive	Porsche 959	handling and performance	lack of courtesy paranoid of the ditch		1342/ no 12 zoo curator
11175	15/21 DS/2	car	quick and easy to get where I want	exotic sports car	I would like to go far away and hear the roar of the engine	When you're driving you should know what you're doing and where you're going. Some people don't.		3421/ 8 12 unempl.
11176	16/23 FR/5	small car	economics	59 Corvette	I would like to drive with the top down. It's a classic.	People that do not know how to merge. That some of the people who really need to be pulled over never seem to get stopped.		2341/ 5 12 office serv. clerk
11177	10/19 HS/0	pick-up truck	it's practical	Volkswagon Van (older)	It's reasonable on gas, it has living properties and lots of style.	Many don't pay attention to what's going on around them.		2341/ ? CD aircraft mechanic apprentice

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11195	14/20 DS/1	Nissan Stanza	comfort/economic/ quality	1944 Ford Pick up	It's...well...uh...ya know ...hard to explain!	Young drivers having no concern for anyone else on the road. <i>Q22 If this question does not conclude THAT I WOULD DRIVE FAST ON CITY STREETS! I feel these questions are very, in some cases, like a catch 22. If I answer these honestly, (which I have here) I feel it implies I'm guilty of the act of doing something WRONG!!! Comments: I have a strange feeling that these questions were not made by persons in this age group (18-24). I feel a person to person interview would be far more effective in this situation. More education is necessary when getting a licence to drive! How do you expect to get a true feeling of the situation if you don't even include a section for comments in your survey! I'm more offended by this survey than anything else!!! Here's a good idea... If a young person wishes to drive show them the gross reality of careless driving! Low insurance rates to start, but if they are the cause of a serious accident their insurance should be 3x of what they would pay at today's rates. Zero tolerance. Please contact me. I would like the opportunity to comment further on this subject! I feel I have a better viewpoint on this matter than someone who is unaware of how it feels the discriminated against because of AGE!!!</i>		3412/ 3? 12 general clerk grocery store
11196	14/18 DS/0	4-door hatchback	small, versatile, fits friends comfortably, good on gas	Honda Accord	sporty, yet practical	They don't know how to merge properly.		1342/ 5 or 6 12 ft student pt cashier
11197*	15/21 DS/1	my sports car	reflects on my image and it looks different	Porsche 911 or Jaguar	shows power and class	People who are not cautious by looking both ways while into traffic; switching lanes with no signal lights.		2431/ ? TC sales electronic tech.
11198	14/24 ST/4	car	easy on gas	Porsche 944	power, looks	speeding up to cut in front of me and make a turn when they could have safely pulled in behind of me to turn.		3421/ no CD ft student
11119	15/19 HS/2	motorcycle	to be different	flying motorbike	to be real different	some are not aware of what's around them (bikes, etc.), most people try to speed whenever they can, people who tailgate bikes.		4231/ ? 12 ft student

ID #	age	dailyveh	dailywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11187	14/20 ST/0	bicycling	I get exercise my only means of transportation	NSX	It will be a classic It's fast and handles very well.	People with tunnel vision and are totally unaware of what is going on around them. Not observing and anticipating traffic flow and potentially dangerous situations.		2341/ yes? 12 unempl.
11188	13/21 DS/2	car	smaller than truck, safer than motorcycle.	Harley Davidson bike	Status. It's not just a bike, it becomes a hobby and it represents irresponsibility (spending \$20,000 on a bike)	Clowns who don't shoulder check. I have a small import car. At least once every time I drive the city some goof in a truck tries to run me off the road because he/she didn't shoulder check. Inconsiderate drivers as well. Those dudes that are too cool to let in a driver who is stuck when a lane ends.		3142/ 7-12 12 radio announcer
11189	14/23 FR/2	truck	cause I own it	1992 Probe	fuel efficient	Ones that don't drive the speed limit and won't pull over to let you by.		1324/ no 12 millworker/ rough neck
11190	14/20 FR/4	pick-up truck	good visibility and feeling of security	Hummer	It takes you wherever you want to go	Not knowing how to merge into traffic.		2341/ no 13 lifeguard/ student
11191	14/21 FR/1	Honda CRX	sporty, cheap on gas	Porsche	quality	Q24 [women like most] <i>silly question</i>	People who tailgate Not making room to merge or change lanes.	2413/ ? TC apprentice mechanic
11192	14/21 HS/2	truck	good price, practical			They don't pay enough attention/ ignoring blind spots/ elderly drivers who drive too slow, fail to signal/ drive between both lanes.		1342/ no UU fistudent
11193*	18/22 DS/3	Honda Civic	durable and economical	Rolls Royce	It's an investment		Not following the flow of traffic, i.e.: too slow or too fast	4231/ 6 12 courtesy bus driver
11194	16/21 FR/4	1979 Pontiac Gran Prix	Affordable, good-looking	Porsche 911	very nice car	careless driving other drivers not thinking ahead, drunk drivers, drivers who lack common sense	changing lanes without looking	3421/ no UU ft student

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11210	19/20 DS/0	station wagon	it was the most fuel economic of our two working vehicles	space ship, I'm serious.	not to be limited by the restrictions of earth	angry is not a good word to use as it reflects the way one drives. I am <u>concerned</u> about the impatient drivers who perform numerous risks and illegal moves.		2431/ no 12 PT student cook at fast food resaturant
11211	14/24 FR/1	small car	easy parking, economical, easy to handle	luxury	comfortable, looks good, runs smoothly	drunk drivers, old drivers, flirty drivers, rough drivers		1432/ 3 TC machine operator
11212*	14/23 ST/0	Peugeot 505	comfort ride and handling	BMW MS	comfort, awesome power and superior road handling	no road manners		2341/ yes ? UU ft student
11213	14/23 FR/1	car	more room in it than a truck	'63 Corvette	style, rarity, power	the way people weave in and out of traffic lanes		3421/ no UU ft student
11214	17/18 DS/1	station wagon	lots of room, economical	new truck	a truck can carry more than a station wagon	The drivers who feel they are above the law, the drivers who speed, drive carelessly		1342/ no 12 cashier
11215*	14/18 HS/0	truck	to load things	Camaro	looks good and goes fast	The way town people turn		3412/ no 12 ft student
11216	14/23 DS/3	1988 Chev Cavalier	good gas mileage, air cond, no breakdowns	1986 Grand National (Buick)	3.7 L twin turbo-charged, limited production, only made til 1986, made in black only	1) The fact that they don't realize that they are propelling 2500 pounds of metal down the roads in dealing with pedestrians/bicycles/motorcycles and other cars. They drive like it is only their body travelling down the road. 2) testing only for initial licence, then no training/testing		1423/ no CD flight service specialist
11217	14/22 ST/0					not paying attention to their surroundings while driving and causing accidents by their lack of attention		1423/ 2 UU bookkeeper
11218	12/21 FR/2	Honda	good gas mileage	Lamborghini	class, style, speed.	When they wait, then pull out in front of you.		4321/ 3 CD unempl
11219	16/24 DS/3	car	it's practical	Porsche 911	just because	courtesy		3421/ no 12 mechanic DND
11220	10/19 ST/1	truck	farmer	Ferrari		People or a specific group of people that because of their large number, believe they rule the road (e.g. Huttenites)		3421/ 3 12 farmer

ID #	age	daillyveh	daillywhy	dreamveh	dreamwhy	driveat	drivebe	rank/pts
11200	14/21 DS/4	car (mid-size)	safe in case of collision, and maneuverable for parking and emergencies.	Porsche 959	because it looks <u>great</u> !	That they do not stay alert. They don't pay attention to about what's going on around them.		4132/ 2 UU ft student
11201	14/19 DS/3	truck	It looks cool	Dodge Viper	V-10 8-litre engine	Old people driving because they don't really pay attention		2431/ 6 12 motion picture projectionist
11202	14/22 DS/1	'84 Nissan pick up	Gas economy/versatility truck required for work			inability to merge correctly		2341/ no TI 1st year
11203	15/24 DS/3	sports car	fast, fun + good looking	Corvette	it has a lot of class and style and it's fast	I feel driving instructors are almost giving people their licences because they're the same race because they don't know how to drive.		2134/ no 12 truck driver
11204	14/18 HS/1	truck	practical	Porsche	speed and style	People who don't do the speed limit, turn without signalling or don't pay attention to what they're doing.		2431/ ? 12 labourer
11205*	12/20 FR/1	1990 Turbo Sprint	maneuverable, cheap, price and gas, more safety than regular Sprint	1972 Pontiac GTO	speed, power, style, performance—meaning of a muscle car	lack of skill in operating vehicle on anything other than paradise road conditions—impaired drivers—uncourteous traffic practices—unsafe drivers handling overpowered sports cars.		1342/less than 7 ft student TI Diploma
11206	13/22 ST/5	car	economical	1949 Ford 1/2 ton	style and appearance, appeals to me	—some drivers are very inconsiderate —all drivers should take an education course before receiving their licence		3124/ no TC driver (dangerous goods)
11207	17/18 HS/0	GMC Sierra 1/2 ton	I didn't, it's the only one that looks good	Ferrari F40	It's fast and looks good.	They have no respect for each other, cutting people off and not letting people in that lane.		1432/ no 11 FT student
11208*	13/23 FR/6+	small car	good gas mileage	57 Chevy Bel-Air	unique	lack of consideration for other drivers		1234/ 6 12 mechanic
11209	14/22 FR/1	car	great color and terrible on gas	Porsche 911	chicks and speed	ignorance of the rules and of other drivers		1432/ no 12 Packer OP/ grade checker

